Turkey: Temporary Trade Barriers as Resistance to Trade Liberalization with the European Union?

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Abstract

Turkey has been an active user of antidumping since the 1990s and more recently added safeguards and countervailing duties to its temporary trade barriers (TTBs). Turkey is a founding member of the World Trade Organization and formed a customs union with the European Union (EU) in 1996. It has also signed numerous preferential trade agreements the EU has been involved in as part of its EU candidacy. The drastic intra and extra-group trade liberalization brought by the relations with the EU seems to be important determinants in the rise of Turkey's contingent protection over the last decade. Moreover, apart from an increase in the number of initiations, the higher rate of initiations finding support and sluggishness in the removal of TTBs over time appear to have played a role in their build-up. Turkey has been significantly affected by the 2008-9 global economic crisis and at the same time kept increasing the use of TTBs. The increase as of 2009 was in line with the recent upward trend but the response to the crisis may come with a lag. In general, Turkey does not target established EU members with TTBs although there is no restriction. Turkey mainly targets developing countries, especially China, at rates disproportional to their import market share.

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1 Introduction

This paper examines Turkey's use of antidumping, safeguards and countervailing duties—temporary trade barriers (TTBs)—from 1990 to 2009. We rely on detailed product level data to analyse the structure of Turkey's TTBs across industries and target countries over time.

Turkey, as a major emerging economy, started to use antidumping policies in 1989 and has since been one of its more active users. It has adopted other measures of temporary trade barriers—namely, global and China-specific safeguards and countervailing duties—and its total use of TTBs has increased especially over the second half of the 2000s.

Turkey went through significant trade liberalization as it fully formed a customs union with the European Union (EU) in January 1996. Based on the customs union decision, Turkey has abolished all trade barriers in the manufacturing sector vis-à-vis the EU, and it has considerably reduced barriers against third countries by adopting the EU's common external tariff. Turkey has also gradually taken on an array of EU preferential trading relationships, such as the Euro-Mediterranean partnership and Generalized System of Preferences (GSP). Turkey formed free trade areas with the European Free Trade Association (EFTA) in 1992 and then with the prospective EU candidate countries in Central and Eastern Europe since joining the customs union.[1]

Turkey's predominant TTB use has been antidumping (AD) throughout 1990-2009 with an increasing rate of import coverage. However, Turkey also started to use global safeguard measures beginning in 2005, and this policy quickly became a significant temporary barrier as a complement to AD. Moreover, in addition to an increase in the number of TTB initiations over the 2000s, the higher rate of initiated investigations resulting in new imposed measures also contributed to Turkey's expanding stock of imported products subject to TTBs. There is also some evidence of sluggishness in Turkey's removal of TTBs over time.

Turkey has been significantly affected by the 2008-9 global economic crisis, with especially negative effects in 2009. After six years of positive growth, Turkish real GDP per capita contracted by 0.6% in 2008 and by 6% in 2009 (Figure 1a). The unemployment rate increased to 10.9% in 2008 only to be surpassed by an increase to 14% in 2009 (Figure 1a). The 2008-9 crisis proved to be as severe as Turkey's two previous major economic crises; in

[1] The members of EFTA in 1992 were Austria, Finland, Iceland, Liechtenstein, Norway, Sweden, and Switzerland. Austria, Finland, and Sweden left EFTA and joined the EU in 1995.

1994, real GDP per capita had declined by 6.3%, and in 2001 it fell by 7.1%. However, unlike the earlier crises, both Turkey's imports and exports declined in 2009 (Figure 1b), an experience shared by the rest of the world (WTO, 2010). The 1994 and 2001 crises were financial in nature as the Turkish lira depreciated sharply—in real terms, by 36% in 1994 and by 31% in 2001 (Figure 1b).[2] Consequently, Turkey's exports kept increasing while its imports declined during those periods. In 2009, Turkey's exports also declined despite the 14% real depreciation of the lira.

During 2008-9, Turkey considerably increased its use of TTBs. Nevertheless, apart from the significant emergence of global safeguard measures, it is hard to argue that the 2008-9 increase was not part of a pre-existent upward trend. However, the full response to the crisis may be felt with a lag; Turkey's use of TTBs may continue to expand even after the crisis. The drastic intra and extra-group trade liberalization brought by the adoption of the EU's common external tariff and its preferential agreements seems to have particularly contributed to the rise in Turkey's use of TTBs over the 2000s. Due to various trade policy commitments with the EU, TTBs offer one of the few channels through which Turkey retains some control over its trade policy.

Turkey's use of TTBs has become more widespread across sectors over time. The products that Turkey has covered with TTBs coincide with the list of goods that were deemed 'sensitive' in its initial agreement with the EU. These products had higher rates of import protection that were phased out by 2001. Turkey has increasingly targeted textiles with TTBs, especially after the expiration of the WTO Agreement on Textiles and Clothing that allowed Turkey to use import quotas despite the customs union agreement.[3]

We also find that, on average, the products that Turkey subjected to TTBs had higher tariff rates and preference margins. The political economy forces that lead to higher tariff protection and more preferential access seem also to affect Turkey's use of TTBs. In general, Turkey does not target established EU members with TTBs, although there is no legal prohibition against doing so. Turkey mainly targets developing countries and especially China, both at rates disproportionate to their import market shares. On the other hand, apart

[2] The real exchange rate is calculated by multiplying Turkish liras per US dollar nominal exchange rate with the ratio of US to Turkish GDP deflators. Therefore, a rise in the real exchange rate indicates a real depreciation of the Turkish currency.

[3] Furthermore, under the Doha Round of WTO negotiations, in 2006, Turkey demanded 'sectoral' treatment for textiles. Their request that textile tariffs should be negotiated separately was backed by the US but opposed by the EU, thus creating some controversy (Beattie, 2006).

from South Korea, the high-income countries are underrepresented relative to their shares of the Turkish import market.

The rest of this paper is organized as follows. In Section 2, we introduce the measurement strategy, examine the use of different kinds of TTBs by Turkey over time, and discuss the effects of economic crises. In Section 3, we examine the relationship between tariffs, imports, preferential trade agreements, and the use of TTBs. In Section 4, we analyse the cross-industry variation, and in Section 5, we investigate the foreign-exporter incidence in Turkey's use of TTBs between 1990 and 2009. Section 6 concludes.

2 The Use of Temporary Trade Barriers over Time

Turkey has been an active user of TTBs, mainly antidumping (AD), since the early 1990s. Beginning in the mid-2000s, Turkey has also started to use global safeguards (SG), China specific safeguards (CSG) and countervailing duties (CVD). In the next subsection, we introduce the main measurement strategies and briefly discuss the data before moving on to the analysis.

2.1 Data and Measurement

Detailed TTB data are obtained from the Temporary Trade Barriers Database (Bown, 2010a). The imports at the 6-digit Harmonized System (HS) level are from COMTRADE, UN Statistics Division, through World Bank's 'World Integrated Trade Solutions' (WITS) software.

TTB database lists the original product names in the investigations. Furthermore, the database identifies the corresponding products at various levels of aggregation; investigations range from the HS 4-digit to HS 12-digit levels. Given the lack of import data at the 12-digit level dating back to 1990s, the analysis is kept at the 6-digit level. Given the nature of the products for Turkey, this would not seem to bias the results.[4]

We consider both stock and flow measures of TTBs. The stock measure refers to the TTBs in force in a given year, whereas the flow measure refers to the newly initiated TTB

[4] For example, for the antidumping case against Finland over 'Paper', which was in effect between 1990 and 2000, TTB database identifies the following two product codes: '480252201000' and '480252801000'. Both are defined as 'Printing and Writing Paper' in the WTO's consolidated tariff schedules for Turkey. The definition for the HS 6-digit code we use, '480252' (which covers both products), in the COMTRADE imports data is 'Paper... (excl. mechanical fibres), weighing >=[4]'. As illustrated in this example, the 6-digit code is sufficiently detailed as compared to the 12-digit code and should not introduce a sizeable bias for the Turkish data.

investigations which may or may not eventually result in newly imposed barriers. Following Bown (2010b), we employ two basic approaches to measure both stocks and flows. The first approach relies on counts of products subject to TTBs as a share of all products imported in a given year and it is captured by equation (1) provided in Bown (2011).

The second approach introduces trade weights by product and import source country. In this respect, it takes into account the economic importance of the product subject to a TTB and also allows for variation across targeted countries. For instance, some of Turkey's TTBs involve only one country, while others involve several countries. Furthermore, new TTB measures may be introduced on the same product before an earlier one expires, potentially introducing new target countries in a given year. When trade-weighting the new TTB indicator (which is now target country specific), we have to account for the trade dampening effect of the barrier in the first place. In this respect, imports by source country subject to TTBs are imputed by allowing the pre-barrier import values to 'grow' at the same rate as the non-TTB products in the economy for as long as the TTB for the target-country-product combination is in force. This approach also provides consistent figures across target countries over time. We calculate the second measure following equation (2) of the Bown (2011). Note that in the case of global safeguards (SG), the target country is 'World', hence we take into account the total imports from all sources for a product under SG. Finally, in all estimates of equation (2), we only consider non-oil imports to avoid volatility in oil prices affecting the consistency of the measures over time.

2.2 General Trends in the Use of Different Types of TTBs

Turkey has actively used antidumping (AD) since 1989. Beginning in 2004, it has adopted other TTB measures as well. In Figure 2a, we present the stock and flow estimates based on equation (1) and in Figure 2b, we present estimates based on equation (2) for AD and combined TTB measures at the HS-06 product level. Figure 2a illustrates that Turkey's antidumping policy use (stock) was relatively steady, covering around 0.7% of the HS-06 imported products between 1992 and 2000. After a rise in coverage in 2001 to 1.5%, the use of AD measures has surged reaching a 4.4% coverage rate by 2009.

In Table 1, we present the underlying stock and flow numbers used in Figure 2 and further break down the TTBs into four categories: antidumping (AD), safeguards (SG),

China-specific safeguards (CSG), and countervailing duties (CVD). We also show counts of products subject to TTB measures, and thus employ the numerator of equation (1) only.

In 2004, Turkey initiated safeguard (SG) investigations for the first time. These covered 13 different HS-06 products, and two resulted in imposed safeguards in 2005. In Figure 2, these turning points are illustrated as the dashed lines (measuring AD only) and solid lines (measuring all TTBs) start to branch out in 2004 (for the flow figures) and 2005 (for the stock figures). Table 1 again documents how SG coverage expanded drastically from 0.07% (two HS-06 products) of the imported products initially in 2005 to 1.9% (83 HS-06 products) by 2008.

In 2006, Turkey imposed China-specific safeguards (CSG) over four HS-06 imported products and initiated investigations covering five other products that did not subsequently turn into CSG measures. The imposed CSG measures were expired in 2009. There were three HS-06 products (from India) investigated for countervailing duties (CVD) which were eventually imposed in 2009; these covered 0.07% of the imported products at the HS-06 level (Table 1).

Figure 2 illustrates intermittent jumps in the flow of TTBs (grey solid lines in Panels a and b), *ie* in the newly initiated TTB investigations at the product level. There was a big jump in 1994 when the number of products investigated hit 144, which covered 3.2% of the imported product lines and 1.8% of the imports by value (Figure 2 and Table 1). The WTO's subsequent Trade Policy Review of Turkey indicated that '…the large build-up of cases initiated through 1994 may be explained by the overvalued domestic currency, which, as in a number of other countries, might have caused domestic industries to seek protection through anti-dumping measures…' (WTO, 1998, p. 59). Turkey did experience a drastic currency crisis in 1994, as its currency depreciated by 36% in real terms against the US dollar (see again Figure 1b) and real GDP per capita contracted by about 6.3% (see again Figure 1a). The surge in the number of products investigated in 1994 was mostly due to the new investigations in the textiles sector. These did not subsequently result in AD measures so there was not a corresponding jump in the stock of AD measures in Figure 2a.

In Figure 2b, we present the stock and flow estimates based on equation (2) and thus trade weight the indicators to better account for the economic importance of the TTBs.[5]

[5] Note that only non-oil total imports are used for the denominator in equation (2) to avoid price volatility and hence to ensure consistency in the estimates over time.

When we consider the share of import value of each target-country-product combination, there was actually a sudden increase in the value of products subject to AD in 1995 (after a small drop in 1994 due to the crisis), although the number of AD-products did not change noticeably (see again Figure 2a). This difference is due to the fact that a few new products in the 'Metals' and 'Plastics and Rubbers' industries were added to the stock of products already under AD. Similarly, the jump in 1994 in the flow of AD investigations is not as pronounced when we consider their share in total imports by value as opposed to counts of products. This jump is completely due to the 138 newly investigated HS-06 products in the 'Textiles (excluding silk & wool)' sector. In terms of trade value, they do not amount to much when compared to other sectors like 'Metals'. The cross-industry variation in the use of TTBs is further explored in Section 4.

A second jump in AD investigated products occurred in 2000 (Figure 2, Table 1). In this year, several of the earlier AD measures were revoked and this was also one year before the requirement that Turkey, as part of the EU customs union, would have to completely phase out all remaining protection on 'sensitive sectors' and adopt the EU's preferential trade agreements (Togan, 2000). Moreover, in late 2000, Turkey experienced a liquidity crisis which turned into a major financial crisis in early 2001 (Onis, 2009), as real GDP per capita contracted by 7.1% (see again Figure 1a). This macroeconomic shock is also a likely contributor to the demands for additional import protection. Given the lag between the initiation of AD investigations and the imposition of AD measures, Turkey's AD stock gradually increased from 2001 onwards (Figure 2a and Table 1). Again due to the liquidity crisis, the import value of the goods covered by TTBs first fell in 2001, before increasing until 2009 when the next crisis hit (Figure 2b). In 2009, the total (non-oil) imports were significantly contracted by 36% due to the global economic crisis. We discuss the effects of this crisis on the use of TTBs and make comparisons to earlier crises in Section 2.4.

There was a steady stream of new AD investigations beginning in 2002 with significant jumps again in 2004, 2008, and 2009 (the grey dashed line in Figure 2a). The increase in other TTB investigations—first in 2006 and then through 2008—led to some divergence in the flow of AD versus the other TTBs. This is shown by the gaps between the solid and dashed grey lines in Figure 2a.

Table 2 presents information on the TTB investigation cases and their outcomes.[6] Some AD investigations involve just one country while others involve several. Each AD case in Table 2 refers to unique country-investigation combinations. In Section 5, we further break down the AD investigation cases by target country and examine cross-target-country differences. Between 1990 and 1999, Turkey initiated a total of 62 AD cases and 64.5% resulted in a final measure (Table 2). However, between 2000 and 2009, the AD investigations were decisively more likely to end in new barriers as 95.1% of the 143 cases resulted in final measures.

Turkey initiated its first five global safeguard (SG) investigations in 2004, and 40% of them resulted in the imposition of final measures.[7] Between 2006 and 2009, all of Turkey's ten SG investigations resulted in measures. In 2005, Turkey initiated its first China-specific safeguard investigation which resulted in a new trade barrier, whereas the other two investigations initiated in 2006 had negative outcomes. Finally, Turkey initiated only one CVD investigation (against India) during the period (in 2008) and it resulted in a final measure.

In addition to Turkey's increase in its initiations over the 2000s, the higher rate of initiations finding support has also played a role in expanding the stock of its TTBs. In the next subsection, we analyse the duration of TTB measures and examine whether there was sluggishness in their removal, potentially adding to the recent build-up.

2.3 Duration of TTBs

The Uruguay Round made sunset reviews after five years a requirement for antidumping measures. Nevertheless, enforcement is lax and WTO's Antidumping Agreement (ADA) 'allows WTO members great latitude in their determination of the likelihood of dumping and injury resumption' (Cadot, de Melo, and Tumurchudur, 2007). Turkey officially adopted the ADA in 1999 (Official Gazette, 1999) agreeing to limit definitive AD measures to five years. Nevertheless, according to Turkey's legislation on the Prevention of Unfair Competition in Imports, a 'definitive anti-dumping duty may remain in force as long as and to the extent necessary to counteract dumping which is causing injury' (Undersecretariat of the Prime Ministry for Foreign Trade, 2010, p. 3). In Table 3, we present information on the

[6] Investigations that have missing initiation and final decision information are not included in the calculations.
[7] Notice the difference between AD cases which are target-country specific and SG investigations which apply to 'World' as the target-country.

duration of AD measures in Turkey at the investigation level. Using the available Turkish data in the Temporary Trade Barriers Database-TTBD (Bown, 2010a), we find that 45 AD measures have been revoked with an average duration of 7.09 years; 36% of measures were revoked in 5 years, and 60% were revoked in 6 to 10 years. One AD measure lasted for 15 years[8] and one lasted for 4 years.

AD measures in the textiles sector had an average duration of 9 years, which is above Turkey's overall AD average. However, AD measures against China had an average duration of 7.4 years which is roughly the same as Turkey's AD measures against other countries. As will be discussed below, Turkey uses TTBs frequently in the textiles sector and to target China. We analyze cross-industry variation in Turkish use of TTBs in Section 4, and we explore foreign-exporter incidence in Section 5.

While Turkey has revoked 45 AD measures, 128 measures were still in effect as of June 2010. Although these barriers have not yet been removed, 55% of them are already beyond 5 years in duration. On average, the overall duration for all cases is 5.4 years thus far with a similar average figure for textiles and China.

In Panel b of Table 3, starting from 1995 (five years beyond which the first AD measures were imposed), we present annual data for the percentage of AD measures imposed five or more years ago that have still not been revoked. Until 1999 and as might be expected, in the absence of a sunset review legislation, almost all cases remained in effect beyond five years. However, beginning in 2000 (the year after the Turkish AD legislation), all but two AD measures that were imposed prior to 2000 were revoked. Therefore, the percentage of AD measures imposed five or more years ago but still not revoked remained in single digits between 2000 and 2004. Of the 147 AD measures that Turkey imposed since 2000, 5% were retired within 5 years, 3% were retired in 7 years, and the remaining 92% were still in force as of June 2010. Consequently, the percentage of measures that linger beyond five years has increased consistently from 2005, reaching 64.6% by 2010.

Turkey enacted its legislation on safeguards in 2004 according to which 'the duration of safeguard measures shall not exceed 4 (four) years, including the duration of any provisional measure unless it is extended… in accordance with the results of a new investigation to be initiated…[and] the total period of application of a safeguard measure shall not exceed 10 years' (Official Gazette, 2004). Of the 12 SG measures imposed since

[8] Against Belarus in the textiles sector for 'Polyster Synthetic Staple Fibers (not Processed)' from 1994 to 2009.

2005, 2 expired in 2008; 5 had not expired as of 2010; 4 were supposed to expire in 2009 but were extended until 2012; and 1 was supposed to expire in 2009 but was revoked in 2010. Therefore, there is some evidence of tardiness in Turkey's removal of global safeguard measures as well.

There was only one China-specific safeguard measure that was imposed in 2006 and it expired in 2009. Finally, there was only one CVD case which came into force in 2009 and was in effect as of 2010.

2.4 The 2008-9 Global Economic Crisis and the Use of TTBs

In 2008 and 2009, Turkey had a significant increase in the number of products subject to TTBs (Table 1 and Figure 2, stock figures). Throughout 1990 to 2009, Turkey's predominant TTB policy was antidumping with an increasingly upward trend in the coverage of products. However, since Turkey first turned to their use in 2005, safeguard measures have quickly become an important temporary trade barrier complementing its use of AD measures.

While the share of Turkey's products subject to AD in its total number of imported products (equation (1) estimate) increased from 3.3% in 2005 to 4.4% in 2009, the share of products covered under SG increased even more dramatically—from 0.04% in 2005 to 1.9% in 2009 (Table 1, stock figures). Turkey's AD coverage has steadily increased beginning in 2001. In that respect, the global safeguard, China-specific safeguard, and countervailing duties that Turkey has subsequently introduced did not replace its AD measures in force.

During the 1994 currency crisis in Turkey, there was an explosion in the number of AD investigations as illustrated by the jump in the solid grey line in Figure 2a, even though the stock figures did not change visibly (solid black line). However, as indicated above, due to the compositional change in products subject to AD, their import value increased in 1995 (Figure 2b).

In late 2000, Turkey suffered a liquidity crisis followed by a financial crisis in early 2001. Having been almost absent between 1995 and 1999, new AD investigations re-emerged in 2000. However, it is hard to disentangle the effect of the crisis from the fact that earlier AD measures were revoked in 2000 and also because Turkey was expected to complete trade liberalization with the EU and adopt an array of EU-related bilateral agreements during this period.

Apart from the significant emergence of global safeguard (SG) measures, it is hard to argue that Turkey's considerable increase in TTB use during 2008-9 was not part of an already existing upward trend in contingent protection. In 2009, only one product was under SG investigation and all the existing SG measures were set to expire by 2012. The China-specific safeguard (CSG) measure that was in force against one product expired in 2009. Turkey introduced countervailing duties (CVD) for the first time in 2009. If new SG, CSG or CVD measures do not rise in the post-crisis period, it might be possible to attribute the 2008-9 increase in non-AD TTB measures partly to the global economic crisis.

A more formal analysis is required to determine whether crises entail more protection through TTBs. What is clear, however, is that the number of new investigations (flow) increased in crisis periods, as can be observed by the significant jumps in the solid grey line in Figure 2a in 1994, 2000, and 2008.

Although the decisiveness in turning AD investigations into final measures seems to be stronger over the 2000s, this moderated slightly during the 2008-9 crisis. The percentage of initiated investigations resulting in measures actually declined to 78.3% (of 23 investigations) in 2008 before rising slightly to 83.3% (of 6 investigations) in 2009; this is in contrast to the 2002-7 period in which 100% of the 92 investigations resulted in imposed TTBs (Table 2).

The duration of AD measures not being revoked at the five year mark (as required by sunset reviews) also increased after 2005, as discussed in the previous subsection. While the 2008-9 crisis may make it easier to justify the extension of the TTBs, any delay in their removal seems to be in line with pre-crisis trends.

Turkey did not resort to other policy changes such as tariff increases in the crisis period, with the exception of a tariff increase in 'beam fish' in 2010 (Global Trade Alert, 2010).[9] However, this product is already excluded from the EU agreement, thus the restriction on Turkey changing its tariff policy due to the customs union with the EU may be preventing other plausible increases in its applied tariffs—many of which are way below their bound rates given the significant trade liberalization in Turkey since the Uruguay Round.

[9] Global Trade Alert also identifies a public procurement legislation in December 2008 (measure no 1098) allowing a 15% price preference for domestic suppliers. However, given the lack of information about this policy prior to 2008, it is hard to compare the crisis era with earlier periods.

In the next section, we explore the relationship between tariffs, imports, preferential trade agreements and Turkey's use of TTBs.

3 Tariffs, Imports, Preferential Trade Agreements and TTBs

Turkey has a complex structure of tariffs including specific, ad valorem, compound components as well as a Mass Housing Fund (MHF) levy on imports. The internal taxes, namely special consumption tax (SCT), value-added tax (VAT) and stamp duty apply in a cascading manner on top of each other, creating yet another differential for imported goods. For instance, VAT applies to imports inclusive of tariffs, levies and SCT. Yet, the average protection levels are pretty low apart from agricultural goods and food items. Togan (2010) computes ad valorem equivalents of nominal protection rates (NPRs) in Turkey taking into account the complexities of the Turkish customs procedures and finds that the simple average NPR against the EU was 9.12% in 2009. However, it was actually 0% in all sectors except agriculture (52.2%) and chemicals (0.08%). The most favoured nation (MFN) protection rate averaged 13.86% with 56.5% in agriculture, 8.93% in textiles, and 8.03% in footwear and miscellaneous manufactures. When only tariffs plus the MHF levy are considered, WTO (1998) estimates that average MFN tariffs declined from 26.7% in 1993 to 12.7% in 1998.

The drastic intra and extra-group trade liberalization—brought by the adoption of the common external tariff of the EU and its preferential agreements as well as the requirement to finalize the liberalization of sensitive sectors—are potential contributing factors to the rise in Turkey's use of TTBs. Due to various trade policy commitments with the EU, temporary trade barriers offer some of the few outlets where Turkey enjoys a certain level of trade policy independence.

In this section, we examine how Turkey's imports, tariffs and preferential trade agreements interact with its use of TTBs. Using the available UNCTAD's TRAINS data on applied MFN and preferential tariffs, we first look at the trends in tariffs for all products that have been subjected to a TTB, versus the remainder, with the exception of agricultural goods. As indicated above, the tariff rates in the agricultural sector are very high and they are excluded from the Turkey-EU agreement. Consequently, Turkey does not impose any TTBs in this sector. We also exclude oil industry products which are solely imported, not comparable with other imports, and also subject to price volatility. Figure 3a illustrates that

average MFN tariffs for TTB products were always higher than the ones for non-TTB products during 1990-2009. The gap ranged between 2% (in 1993) and 4% (in 1997). This suggests that Turkey used TTBs for products that were already more protected through tariffs and hints a complementarity between the two forms of protection. Therefore, it is plausible to argue that tariff liberalization might have accelerated the use of TTBs, especially after 2000. Nevertheless, a suggestion of causality requires a more formal analysis that would necessitate controlling for the effects of various other factors.[10]

In addition to trade liberalization concerning the EU, Turkey also entered agreements to completely eliminate tariffs in industrial goods with Israel by 2000; with Hungary, Czech Republic, Slovak Republic, and Lithuania by 2001; with Romania, Bulgaria, and Poland by 2002; with Estonia and Latvia by entry into force of agreement in 2004; with Croatia, and Bosnia-Herzegovina by 2007; and with Macedonia by 2008 (WTO, 2003). Computing preference margins as the difference between MFN tariffs and the lowest available preferential tariff by product, Figure 3b illustrates that preference margins were higher for TTB products over time. One interpretation is that products with a larger preference margin were more likely to be protected by TTBs. Given that preferential tariffs for the products involved were either duty-free or very low, preferential margins also directly reflect the cross-product variation in MFN tariffs similar to Figure 3a. Therefore, it is not possible to disentangle the importance of the two channels affecting the use of TTBs without a formal econometric analysis.

Figure 3c illustrates Turkey's import values for TTB versus non-TTB products, normalizing their 1990 figures to 100. Imports of TTB products have expanded more rapidly, suggesting once more the import-competing nature and hence political sensitivity of these products for policymakers.

In addition to the independence from the EU in the use of TTBs against third countries, there is no restriction for TTB use between the EU and Turkey. In Figure 3d, we report the percentage share of HS-06-product-target-country combinations subject to a TTB

[10] Another point to check would be to compare the antidumping margins with the tariff overhang (bound MFN tariff rates minus applied tariffs) but this cannot be performed for Turkey given the incompatibility of product codes (and lack of correspondence) in the Temporary Trade Barriers Database (Bown, 2010a) with WTO's consolidated tariff schedules and four different versions of the HS code (8 to 12 digit) in the TRAINS dataset. Given that MFN tariffs are actually determined in tandem with the EU, Turkey does not have the ability to raise its applied tariffs that are not bound instead of introducing new TTBs. Otherwise, whether AD margins exceed the tariff overhang could be used to investigate whether Turkey is using TTBs 'unfairly'.

by Turkey's PTA partners versus non-partners. This calculation is similar in spirit to equation (1), discussed in Section 2.1, in terms of being a count measure. It is computed as the number of distinct HS-06-product-TTB-country combinations as a share of all export-country-HS-06-product combinations, dropping observations for countries supplying less than 1% of the imports for a given product. Then in Figure 3e, we present the percentage share of the *import value* of HS-06 products subject to a TTB by PTA partner, which is an application of equation (2) discussed in Section 2.1.

Figures 3d and 3e describe results for four different target groups: 1) 'EU-15' includes the 15 EU members as of 1996, the year Turkey formed the customs union with the EU; 2) 'CEE' includes the Central and Eastern European countries with which Turkey initially signed an FTA and which joined (or are in process of joining) the EU after 1996 (namely, Bulgaria, former Czechoslovakia, Hungary, Poland, Romania and former Yugoslavia); 3) 'FTA' includes two other countries with which Turkey has an FTA (Israel and Pakistan); 4) 'MFN' includes the rest of the target countries subject to a TTB.

Until 2003, the number of HS-06 products from EU-15 that Turkey subjected to TTBs was minimal, averaging 2.4 between 1990 and 2000, none in 2001 and 2002, 6 between 2003 and 2008, and finally 2 in 2009. TTB-products from CEE countries averaged 17.9 between 1990 and 2000, none in 2001 and 2002, and averaged only 2.4 between 2003 and 2009. For the FTA group, there were 20 HS-06 products from Pakistan subject to TTBs in 1992 and 1993, and 1 HS-06 product from Israel under TTBs between 2003 and 2008. The rest of the MFN countries shouldered the burden of TTBs with a significant upward trend beginning in 2002 (Figure 3d).

Figure 3e presents import values of TTB products by target country as a share of total imports. Again, non-PTA countries (identified as MFN) constitute the highest share of TTB imports with the exception of Pakistan (FTA group) in 1992 and 1993. As might be expected, although the share of TTB-products is small for EU-15, their incidence is higher in terms of import value. The import value of TTB products for CEE countries was initially small but increased to more than EU-15 values by 2003. Yet, PTA imports subject to TTBs are relatively negligible as compared to non-PTA imports starting from 1995. The cross-target-country distribution of TTBs is examined further in Section 5.

4 Cross-Industry Variation in the Use of TTBs over Time

4.1 General Trends

The use of contingent protection is frequently concentrated in only a few sectors. In Figure 4a, we present the stock estimates across a selected subset of HS-02 industries/sections based on a variant of equation (1). In Figure 4b, we present stock estimates based on import value as defined by equation (2) discussed in Section 2.1. Finally, in Panels c and d of Figure 4, we present flow versions of equation (1) and (2) estimates across a selected subset of HS-02 industries/sections.

Table 4a documents the stock versions of equation (1) and equation (2) estimates across all HS-02 industries/sections and, wherever applicable, at the HS-02 or HS-04 level if the products subject to TTBs refer to specific 2- or 4-digit industries within the HS-02 section rather than covering several subsectors. For example, rather than considering the 'Mineral Products' sector which spans chapters 25-27 at the HS-02 level, we report the category 'Salt' whose HS code is 25 because this is the only subcategory in which a Turkish TTB (namely, a global safeguard) applies. Similarly, rather than the 'Raw Hides, Skins, Leather & Furs' sector covering HS-02 chapters 41-43, we report HS-04 level sector 4202, '[Leather] travel goods, handbags, wallets, jewelry cases etc.'. Then in Table 4b, we present the flow versions of equation (1) and equation (2) estimates (*ie* based on new investigations) across the same HS-02 industries/sections.

Until the end of 2000, 'Stone/Ceramics/Glass' consistently had the highest number of products subject to TTBs.[11] In 1992 and 1993, 'Textiles (excluding silk & wool)' exceeded 'Stone/Ceramics/Glass', which was followed by 'Metals' as the next biggest TTB target between 1990 and 2000 (Figure 4a and Table 4a). However, when we consider the import shares using import values of target-country-product combinations subject to TTBs (*ie* equation (2) variant) in the 1990-4 period, 'Textiles' is the most important economically sizeable sector covered, followed by 'Wood/Paper' and 'Stone/Ceramics/Glass' (Figure 4b and Table 4a). Beginning in 1995, import value share of 'Metals' is first (1% of all non-oil imports), followed by 'Plastics/Rubbers' (0.17%) and 'Textiles' (0.11%).

Consider next the measure of new TTB investigations (flow) between 1990 and 1994. A majority of new TTBs were in Textiles followed by Stone/Ceramics/Glass. In Textiles, 56 different HS-06 products were investigated in 1991, 21 in 1992, and 138 in 1994 (see again

[11] Note that the only TTB measure used by Turkey until 2005 was antidumping.

Figure 4c and Table 4b). Yet, when we rank TTB coverage for new investigations by value of imports, Metals is first in 1994 and Textiles second (Figure 4d and Table 4b).

Starting in 2001, the highest stock of products subject to TTBs by count was clearly in Textiles, with notable shares of Plastics/Rubbers and Metals (Figure 4a and Table 4a). Beginning in 2006, other sectors became prominent users: Footwear, Machinery/Electrical, and Wood/Paper, and later Leather Handbags in 2008 and 2009 (Table 4a). Between 1995 and 2008, Metals had the largest share of TTB covered imports by value, closely followed by Textiles from 2002 to 2008 (Figure 4b and Table 4a). However, Textiles commanded the highest share by import value in the crisis year of 2009. The share of Plastics/Rubbers by import value was sizeable beginning in 2003, joined by Footwear and Machinery/Electrical in 2006 and Leather Handbags in 2009. Figure 4 (Panels a and b) also illustrates this as the 'Other' category expanded during 2003-9.

An important implication from these observations is that the incidence of TTBs has become more widespread across sectors as Turkey's overall coverage has increased over time. In 2008-9, most new investigations (flow) were again in Textiles, followed by Plastics/Rubbers and Metals (see Figures 4c and 4d, and Table 4b). A few other sectors had investigations that were small in terms of import value; one exception is the countervailing duty case against India in chemicals in 2008 (Table 4b). Overall, it is not clear whether the late 2000s trend of diversification of industries subject to TTBs will continue in the post-crisis era.

In Figure 5, we separate the stock and flow figures by share of import value within selected sectors over time (a variant of equation (2) estimates) in order to more clearly assess within-industry trends.

There is a clear upward trend in TTBs against Textiles after 2002, with a significant jump in 2008 due to new investigations (Figure 5a). The share of the import value of HS-06 products subject to TTBs relative to all Textiles imports expanded from an average of only 4% prior to 2002 to 36% in 2009.

Plastics/rubber imports were first subjected to TTBs in 1995 following investigations in 1993 and 1994 (Figure 5b). After dipping in 2001 and 2002, there was a dramatic increase in the import share associated with new investigations in 2001. Turkey implemented the additional TTBs in this sector beginning in 2003, with notable new initiations in 2004 and

2006 resulting in an average of 12% of Plastics/Rubbers imports (by value) being covered by TTBs.

The Metals sector initiated investigations covering only two HS-06 products (namely, steel billets) in 1994. Nevertheless, these products commanded a remarkable 1.1% of total imports by value and were not revoked until 2008. The share of Metals dropped from 1.5% to 0.16% of imports by value in 2009 (Figure 4b and Figure 4d). The within sector coverage rate by import value of Metals was also substantial, averaging 50% between 1995 and 2008 (Figure 5c).

The Stone/Ceramic/Glass sector (HS 68-70) had a small but robust share of total imports by value between 1992 and 2000. TTBs in this sector largely disappeared between 2001 and 2005, only to return beginning in 2006 (Figure 4b). The within sector share of imports subject to TTBs relative to the more general Stone/Glass sector (HS 68-71) was noteworthy, with an average above 10% during the period, except between 2001 and 2005 (Figure 5d).

Finally, Machinery/Electrical had a small share of TTB coverage by import value through the 1990s. New investigations from 2004 until 2007 allowed TTBs to reach a considerable share of imports beginning in 2005. By 2008, 42% of imports within the sector were covered by TTBs (Figure 5d).

4.2 Contributing Factors to TTB Use across Industries

Turkey experienced significant trade liberalization both bilaterally and against third countries by forming a customs union with the EU in 1996. It has also signed several of the EU's pre-existing preferential agreements under the expectation that Turkey would eventually become a member of the EU.

Although the industrial goods originating from the EU were already receiving a duty-free status as of 1996, Turkey was granted exceptions for some 'sensitive' products until 2001. These included 'motor vehicles with an engine capacity smaller than 2,000cc., bicycles, leather cases and bags, footwear and their parts, furniture, chinaware and ceramic ware, iron and steel wires and ropes not electrically insulated, and paper or paperboard sacks and bags for cement or fertilizers' (WTO, 1998, p. 35). The temporary trade barriers that Turkey introduced over the 1990-2009 period directly include these 'sensitive' products.

In the case of textiles/clothing, which is Turkey's largest export sector, quotas were still in effect in the 1990s as was permitted under the WTO Agreement on Textiles and Clothing and as part of the trade policy harmonisation requirement with the EU. The expiration of this agreement in January 2005, accompanied by China's accession to the WTO in late 2001, were likely contributors to the expanding set of products in this sector being targeted by Turkish TTBs beginning in 2002.

5 Foreign Exporter Incidence of TTBs over Time

5.1 By Country Groups

Using the World Bank classification of countries by income, we divide the set of exporters subject to Turkey's TTBs into four groups: 1) China; 2) South Korea (OECD high-income); 3) Non-China (includes low income, lower middle income, and upper middle income countries); and 4) High-Income (includes both OECD and non-OECD high income countries). In Figure 6a, we present the stock estimates of a variant of equation (1), that is, we analyse the variation in the use of TTBs across country groups by counts of product-target-country combinations for measures in force.[12] Similarly, in Figure 6b, we present stock estimates based on equation (2) by country group, using import values of each country-product combination subject to TTBs.[13] In Figures 6c and 6d, we depict the flow versions of equation (1) and equation (2) estimates. This part of the analysis excludes global safeguards, which typically apply to all countries, as opposed to the other three TTB measures which are country-specific.

Since the early 1990s, Turkey has used TTBs predominantly against developing countries; *ie* countries in the 'Non-China' group and China itself. Applying equation (1) on a country-group basis, the percentage share of HS-06 products subject to TTBs between 1990 and 2000 averaged 0.020% for the high-income group, 0.005% for South Korea, 0.018% for China, and 0.120% for the rest of the developing countries (Figure 6a). After a drop in coverage for all groups except China in 2001, it increased again for all groups in 2002 as compared to the 1990-2000 period. The percentage of imported goods subject to TTBs from high income exporters was 0% for 2001 and 2002, and averaged 0.025% between 2002

[12] Recall that this is computed as the share of distinct HS-06-product-TTB-country combinations as a share of all export-country-HS-06-product combinations, dropping the observations for countries supplying less than 1% of imports for a given product.

[13] Again, only non-oil imports are considered for consistency.

and 2009. For South Korea, the share of products under TTBs had a stable average of 0.086% between 2002 and 2009. In the case of China, there was a dramatic increase in the share of imported products subject to TTBs; the average was 0.44% for the 2002-9 period, starting at 0.31% in 2002 and reaching 0.61% in 2009. For the 'Non-China' developing country group, the average coverage rate of HS-06-product-target-country combinations was 0.38%, steadily increasing from 0.27% in 2002 to 0.40% in 2008, and significantly rising to 0.60% in 2009 (Figure 6a).

Consider next the value of imports from target exporting countries as a share of total imports (*ie* employing equation (2) by country group). For products subject to TTBs, the import share by value in high-income and non-China developing countries were initially quite similar (Figure 6b). The import value shares of China and South Korea also began at relatively low levels. Between 1995 and 2000, the import value share of non-China developing countries increased significantly to an average of 1.27%, while high-income economies averaged 0.10%. China and South Korea's shares remained small at an average of 0.06% and 0.05% respectively.

For the high-income group, import value share of their products subject to TTBs dropped to 0% in 2001 and 2002, then averaged 0.20% between 2003 and 2008, and finally decreased to 0.16% by 2009 with the global economic crisis. South Korea as a high-income emerging market had an average import value share of 0.30% from 2002 to 2008, surpassing all other high-income economies subject to TTBs. For the 'Non-China' group, the import share started at 1.09% in 2002, increased to 1.89% in 2008, and fell to 0.77% in 2009. Therefore, non-China developing countries continued to have the highest import value share of products subject to TTBs until 2008. China started with an import share of 0.22% in 2002, steadily increasing through 2009 to 0.98% (Figure 6b).

These figures show that Turkey's use of TTBs is mainly a developing country/emerging market phenomenon and increasingly applied towards China. In terms of the counts of products, most TTB investigations were also predominantly against developing countries (Figure 6c). When import values are considered, the largest share of investigations in the late 2000s has been against China, followed by non-China developing countries (Figure 6d).

Figure 7a focuses on the share of antidumping investigation cases (as opposed to AD products at the HS-06 level) across the same four country groups. The number of measures

against China in force (stock) as a share of total number of AD cases started at 14% in 1990, averaging consistently around 14% until 2000. Later on, China's share rose to 25% in 2001, to 39% in 2002, and finally reached 46% in 2009. Non-China developing and high-income countries both started at 43% in 1990. While the 'Non-China' group averaged 62% between 1991 and 2001, its share then decreased to an average of 45% between 2002 and 2009. The high-income group averaged 27% between 1992 and 1994 before its share gradually decreased to 10% by 2000, 0% in 2001 and 2002, increasing to an average of 9% between 2003 and 2009. While South Korea faced no investigations in 1990 and 1991, its exporters faced, on average, 5% of investigations between 1992 and 2000. Its share rose to an average of 17% in the 2001-2 period, when other high-income countries did not face any AD measures, and decreased to an average of 5% between 2003 and 2009. In terms of the number of AD investigations, China alone became as large a target as the entire non-China developing economies by the late 2000s (Figure 7a).

Figure 7b presents Turkey's import market shares by country groups subject to AD measures. Among the group of countries subject to AD measures, China's import market share averaged 7% from 1990 to 1999, and 12.7% from 2000 to 2009. Comparing Panels a and b of Figure 7, China's AD burden was disproportional to its import market share. Non-China developing countries made up, on average, 38% of Turkey's import market between 1990 and 1999 and 41% between 2000 and 2009. The AD burden on non-China developing countries was also slightly disproportional to their import market share. South Korea had an import market share of 7% for 1990-9 and 6% for 2000-2009, therefore its AD burden was roughly proportional to its market share. Finally, high-income countries had an average market share of 47% for the 1990-9 period and 40% for 2000-2009. In terms of market share, high-income countries were underrepresented as targets for AD.

5.2 By Countries

Table 5 details the countries frequently targeted by Turkey's TTBs. Between 1990 and 2000, Romania was targeted the most, followed by Indonesia and China in terms of the number of HS-06 products subject to AD measures (Table 5a). This group was followed by Taiwan and South Korea. The second part of Table 5a considers the import value share of target country-product combinations. South Korea had a higher share than the other individual countries between 1990 and 1994 and in 2000, although it had fewer products subject to AD

measures. This is due to the fact that South Korea is the only country classified as high-income within the group of target countries displayed.

China became Turkey's largest target of TTBs in 2001, facing TTBs in 63 HS-06 products (Table 5a). The rest of Turkey's trading partners faced TTBs over a total of only 15 products. Turkey increased the number of HS-06 products subject to TTBs from China from 93 in 2002 to 190 products in 2009 (Table 5a) as it initiated new investigations every year (Table 5b). South Korea, Taiwan, Malaysia and Thailand were the next-most targeted countries, holding a relatively stable stock of about 25-30 products subject to TTBs between 2002 and 2009 (Table 5a). India emerged as an important target in 2009 with 40 TTB-covered products mostly due to Turkey's imposition of a countervailing duty measure. Indonesia and Vietnam also emerged as targets with 37 and 8 products covered by TTBs by 2009, respectively. Romania (which joined the EU in 2007) had only one product subject to an AD imposed initially in 2003 that was part of a multi-country AD measure—a rare occasion that included other EU members such as Germany and Netherlands. In general Turkey has not targeted established EU members, even though there is no restriction on the use of AD measures between the EU and Turkey.

Table 5b presents flow figures regarding newly initiated investigations across target countries. There were a large number of products investigated in 1994 and almost none between 1995 and 1999. Turkey targeted China with the most new investigations (140 products), followed by Indonesia (138), India (74) and South Korea (64) in 1994. The second spike in new investigations came in 2000 when China was the most frequently targeted (85 products), followed by Taiwan, Thailand, South Korea and Malaysia. Finally, the rise in the stock of products subject to TTBs imported from India and Indonesia (Table 5a) was foreshadowed by the surge in investigations against them in 2008 (Table 5b).

The second part of Table 5b illustrates the import value shares of these same countries' products subject to TTB investigations as a share of total imports (equation (2) estimate). China was the most targeted exporter until 1994. Between 1995 and 2000, South Korea was the most targeted country before this shifted to Romania in 2001. In 2002, Thailand and India's AD investigations had the highest import value share despite covering fewer products than China's. However, beginning in 2003, China again became the country with the highest share of Turkey's import value subject to TTB flows (Table 5b).

Finally, in Table 6, following Bown (2010c) and Prusa (2010), we present the cross-country distribution of antidumping investigations (rather than HS-06 products). We divide the sample into two eras: 1990 to 1999 and 2000 to 2009. We then rank the target countries based on the total number of AD investigations against them and report the highest nine countries along with totals of the remaining countries separated into two groups: high-income and non-high income.

Between 1990 and 1999, China faced 14% of Turkey's AD cases, followed by Romania (9%) and Russia (8%). China was involved in 27% of all distinct investigations, followed by Romania (18%) and Russia (16%). When we compare the ranking based on involvement rates and import market share relative to all target countries, each of the top nine countries were disproportionately represented in AD investigations. For example, China was investigated at the highest rate but it ranked only tenth in terms of its share of Turkish imports (Table 6).

Between 1990 and 1999, Taiwan was most frequently named as the only country in its respective AD investigations with a 67% rate, whereas China was investigated as the only country in 33% of its AD cases. Romania had the highest share of its investigations resulting in measures with an 88% rate. Russia had a 71% rate, while China had a 50% rate.

Between 2000 and 2009, China clearly became the single biggest target with involvement in 43% of all AD cases and 82% of distinct AD investigations. This figure becomes even starker when comparing China to the next countries in line: Taiwan and Thailand faced only 7% (13%) and 6% (12%) of the AD cases (distinct AD investigations), respectively. Moreover, in 65% of the AD cases against China, it was the only country named in the investigations (a significant increase from its 33% rate between 1990 and 1999). China was trailed by Russia with a 33% rate of being named as the only country in its AD cases, for the same period.

For the 2000-2009 period, China's share of Turkey's imports increased substantially. This is in contrast, for example, with Russia which had Turkey's second largest share of imports, but was the ninth highest AD target. Finally, when compared to the 1990-9 period, the rate at which Turkey's cases resulted in measures was significantly higher. It was 97% for China (60 of the 62 cases) and 100% for countries ranked second to eighth place. This might be an indication that investigations were carried out more decisively and may be a further contributing factor to the rise in Turkey's TTB use.

The last column of Table 6 reports the mean firm level antidumping margins by country for the two eras. These rates are expressed in ad valorem terms, and we focus on the average of the minimum and maximum margins. In the 1990-9 period, China faced an average AD margin of 278%, followed by Bulgaria at 111%, whereas the rest faced a 33% rate on average. In the 2000-2009 period, China again stayed in front with an AD margin of 91%, followed by Thailand at 59%, and the rest had a 23% rate on average.

6 Conclusion

Turkey has been an active user of temporary trade barriers (TTBs) and especially antidumping measures since the early 1990s. At the same time, it has significantly liberalised its foreign trade through WTO commitments and through formation of a customs union with the EU in 1996. As part of the harmonisation efforts with the EU, Turkey has signed several free trade agreements and also started to grant unilateral preferences through the Generalized System of Preferences.

Over the 2000s, Turkey's use of TTBs has increased both in terms of the number of products covered and in terms of their economic importance, as evidenced by the rise in the value of imports subject to TTBs. There is also evidence that TTB initiations more frequently result in imposed measures and there is some tardiness in the removal of existing barriers. Each of these factors contributes to the build up of Turkey's stock of barriers. While Turkey was significantly affected by the 2008-9 global economic crisis, it is difficult to argue that the crisis was the main factor in the surge of TTB protection, given that this increase is part of a pre-existing upward trend. Yet, the response to the crisis may come with a few years lag, thus a more definitive analysis requires observations beyond 2009.

Turkey's TTB coverage has spread over a larger number of industries over time. Furthermore, Turkey has begun to complement its antidumping policy by introducing global safeguards, China-specific safeguards, and countervailing duties. The products targeted with TTBs overlap with Turkey's list of 'sensitive' products left out of the 1996 agreement with the EU and for which tariffs were phased out by 2001. The political economy forces and import competition that keep tariffs high in these sectors also seem to make them potential targets for TTBs.

Turkey's TTBs mainly aim at the developing countries and emerging markets and are imposed at rates disproportional to their import market shares. Nevertheless, China

increasingly bears the brunt of Turkey's TTB protection over the 2000s, as compared to any other nation or country group.

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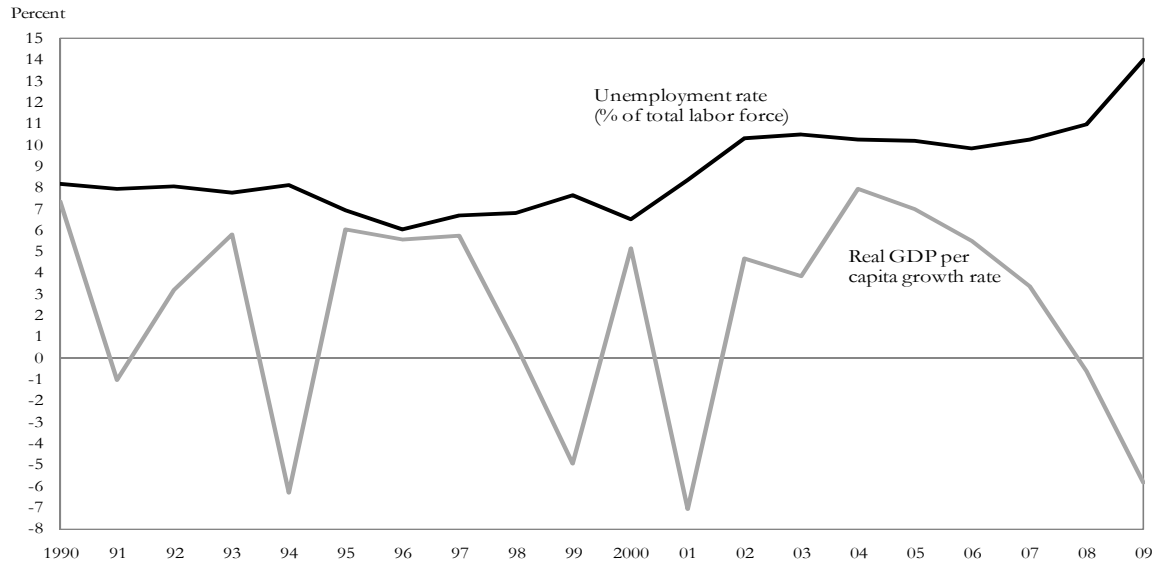
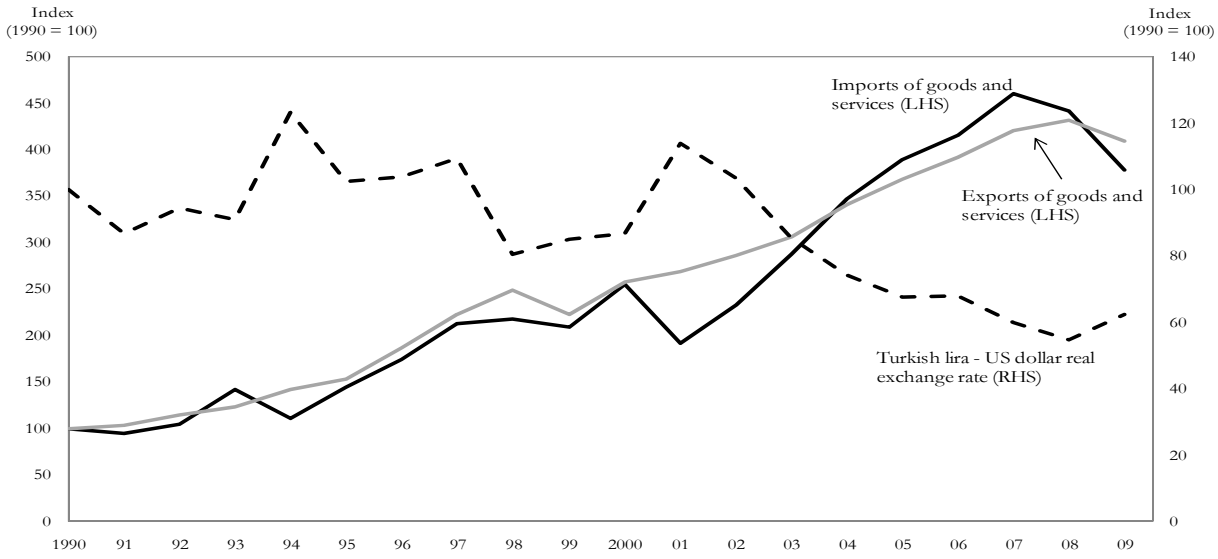
a. Real GDP per Capita Growth and Unemployment Rates



Sources: World Economic Outlook, IMF (Unemployment); World Development Indicators-WDI, World Bank (RGDPpc Growth).

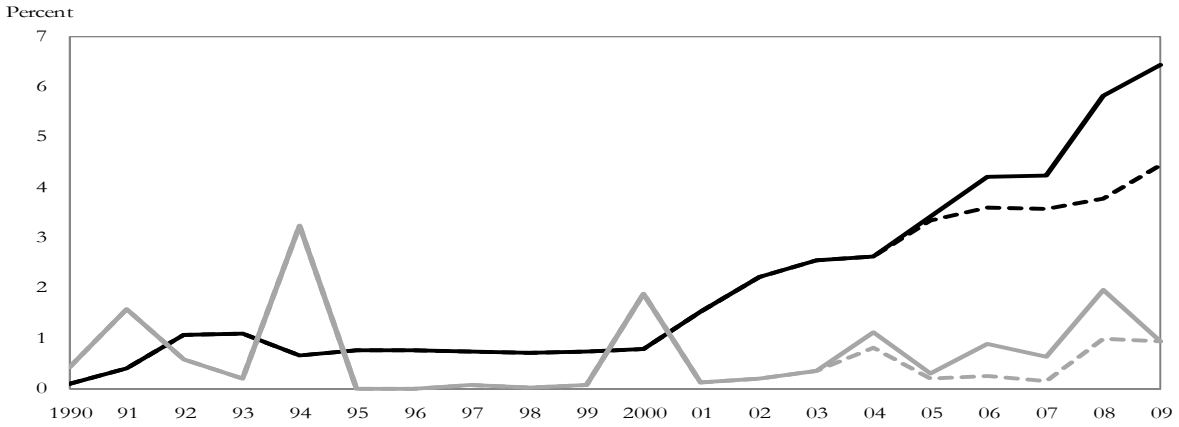
b. Real Imports and Exports Indices and Turkish Lira - US Dollar Real Exchange Rate



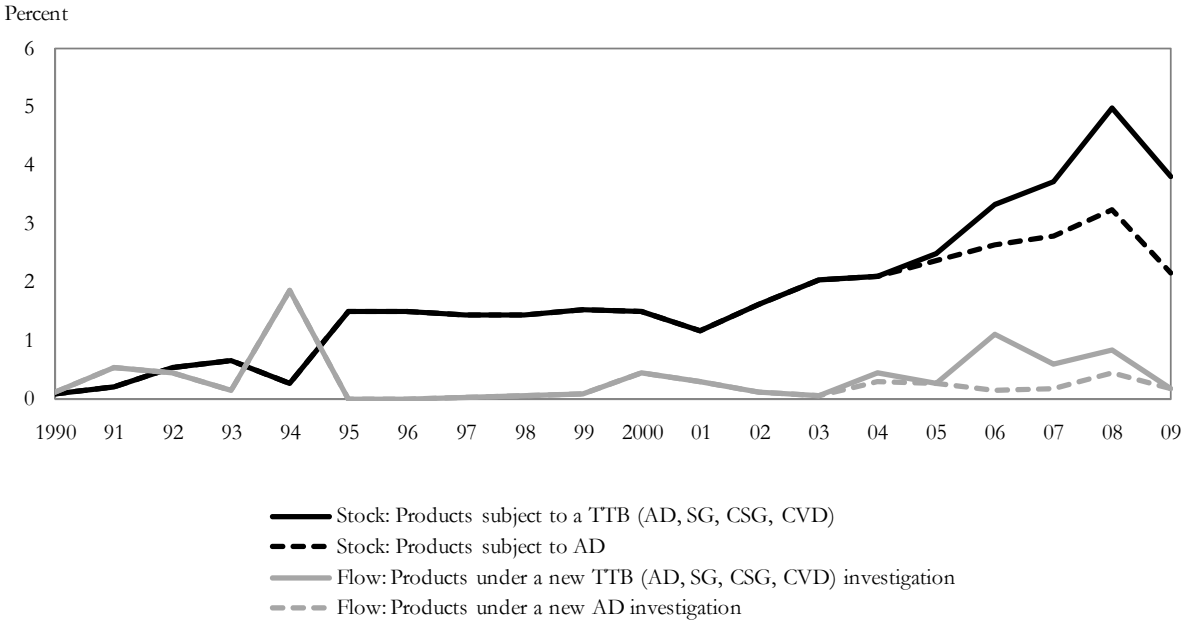
Note: Increase in the real exchange rate indicates depreciation of the Turkish lira.
Sources: Author's calculations using WDI and International Financial Statistics, IMF.

Figure 1: Turkish Macroeconomic Indicators, 1990-2009

a. Share of TTB-impacted HS-06 Products by Count



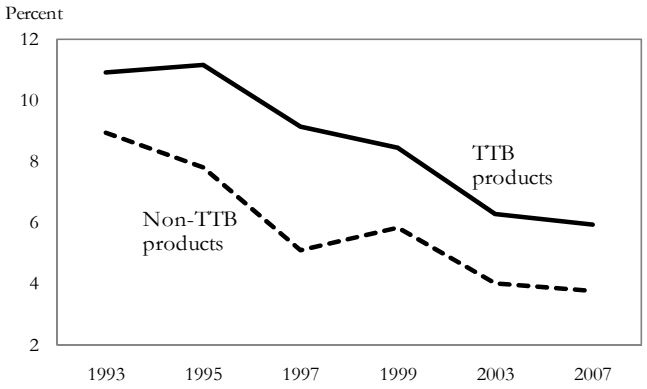
b. Share of TTB-impacted HS-06 Products by Import Value



Sources: Author's calculations using Temporary Trade Barriers Database-TTBD (Bown, 2010a) and COMTRADE, UN Statistics Division.

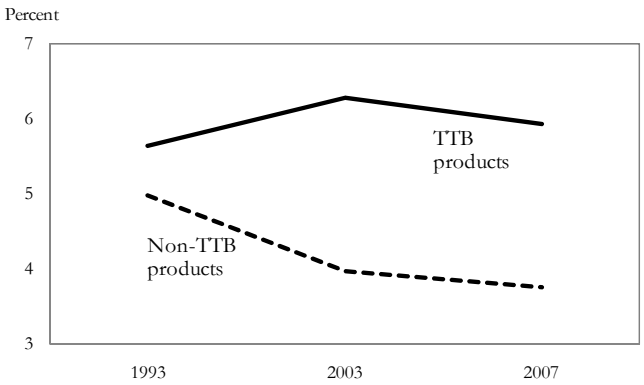
Figure 2: Turkey's Use of Temporary Trade Barriers, 1990-2009

a. Average Tariffs for TTB versus non-TTB Products



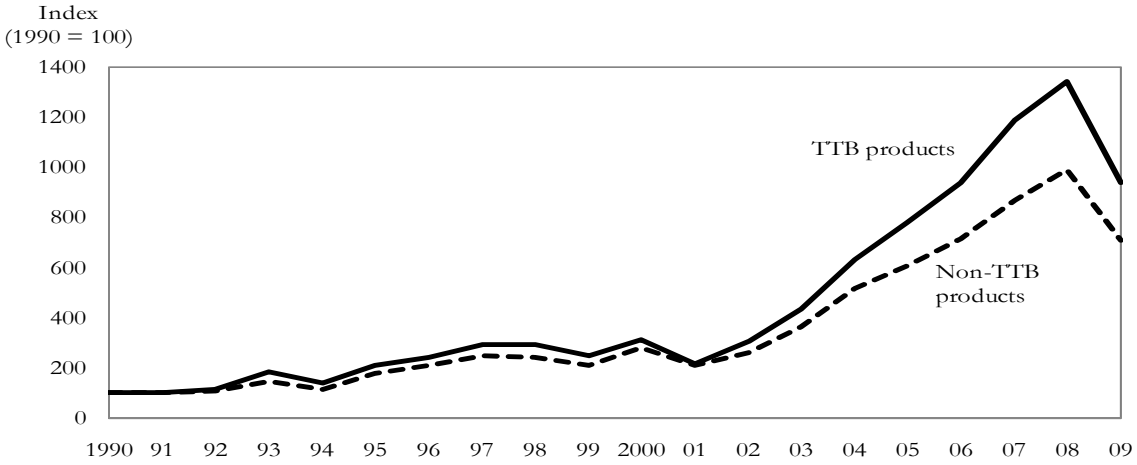
Sources: Author's calculations using TRAINS, UNCTAD and TTBD (Bown, 2010a).

b. Preference Margins for TTB versus non-TTB Products



Sources: Author's calculations using TRAINS and TTBD (Bown, 2010a).

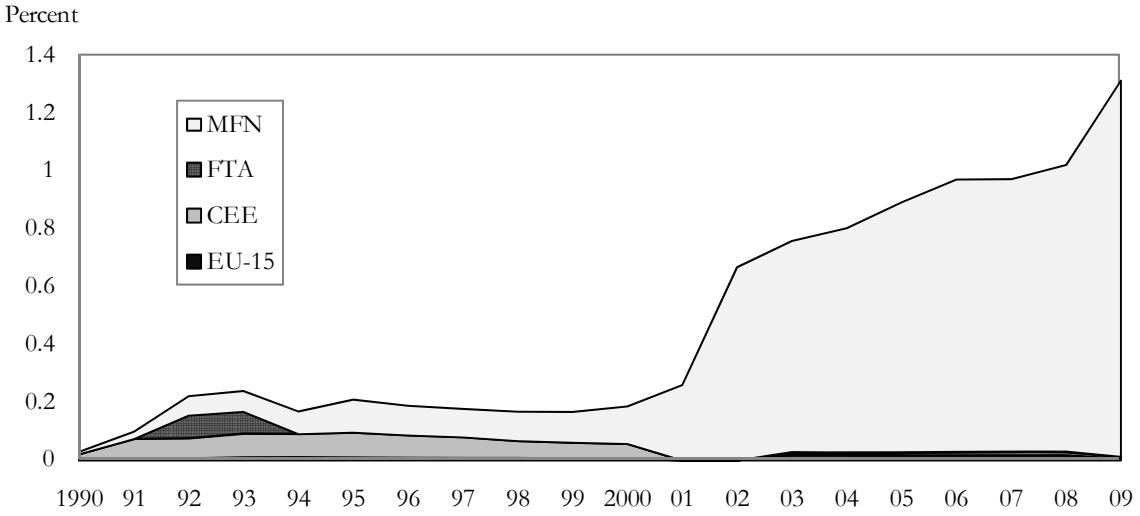
c. Import Values for TTB versus non-TTB Products



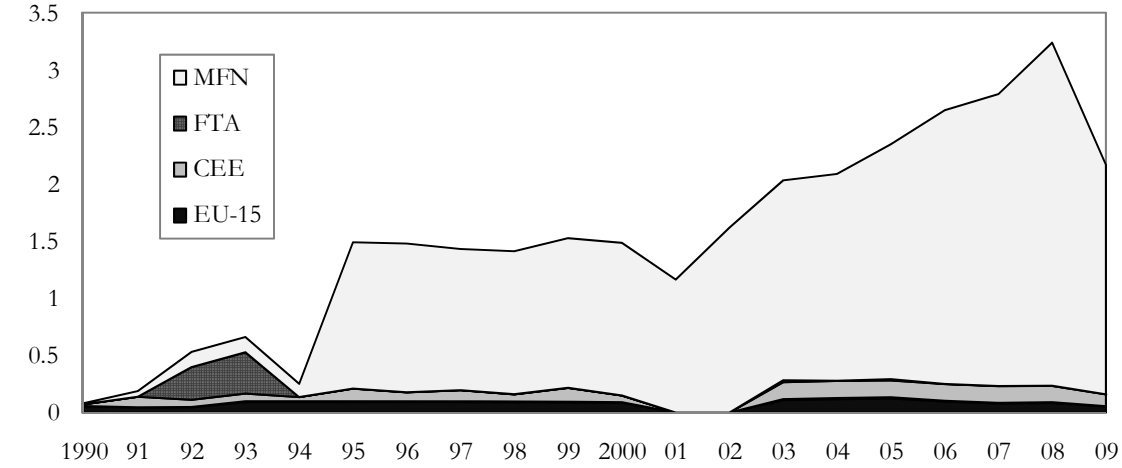
Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Figure 3: Turkey's Tariffs, Preferential Trade Agreements, Preference Margins, Imports, and TTBs

d. Share of HS-06 Product-Target Country Combinations Subject to a TTB by PTA Partner (Stock)



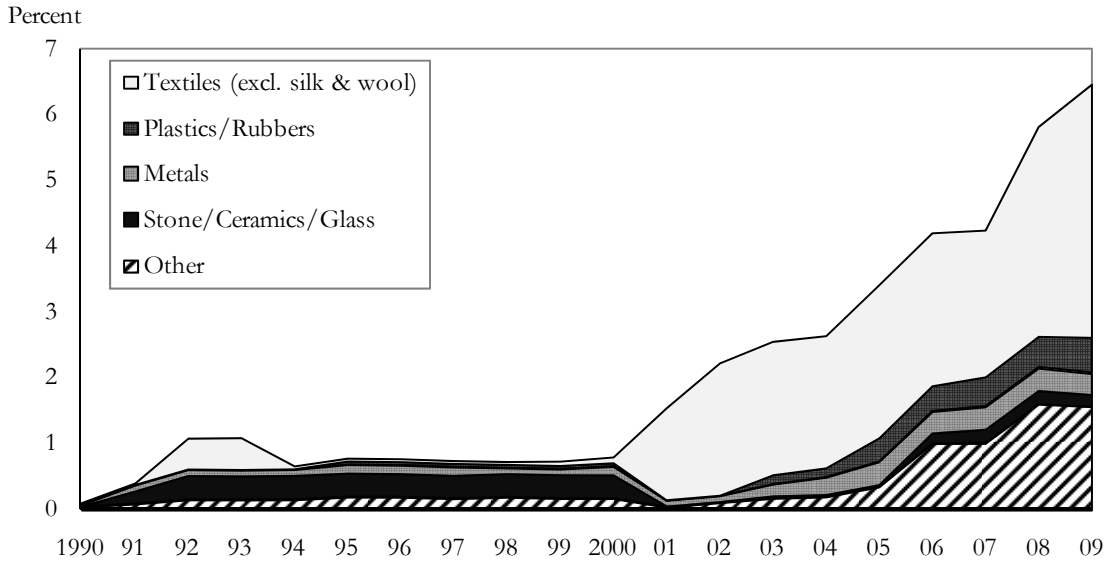
e. Share of the Import Value of HS-06 Products Subject to a TTB by PTA Partner (Stock)



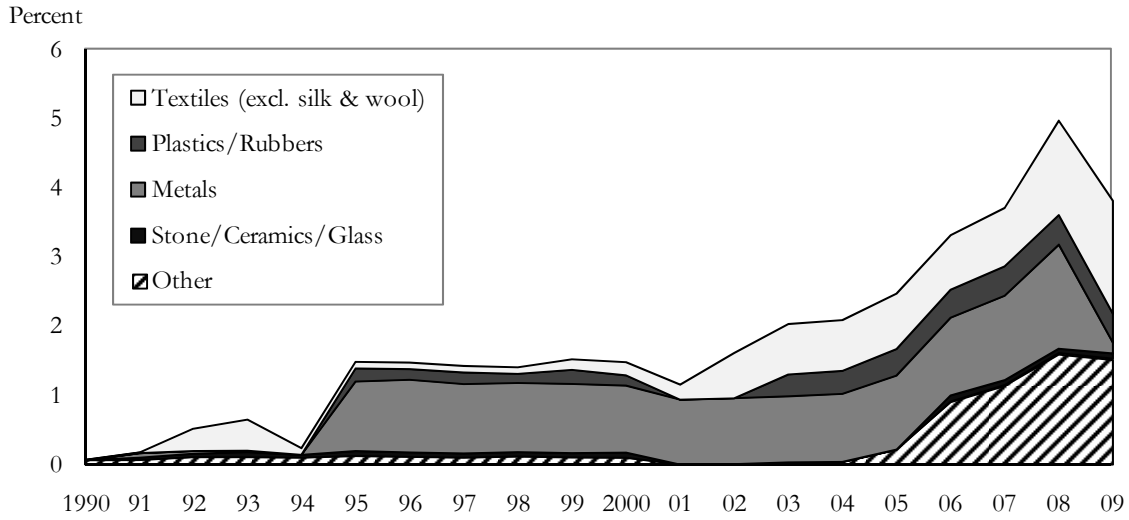
Notes: TTBs include AD, CVD, and CSG.
Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Figure 3: Tariffs, PTAs, Preference Margins, Imports, and TTBs (continued…)

a. Share of HS-06 Products Subject to a TTB by Industry (Stock)



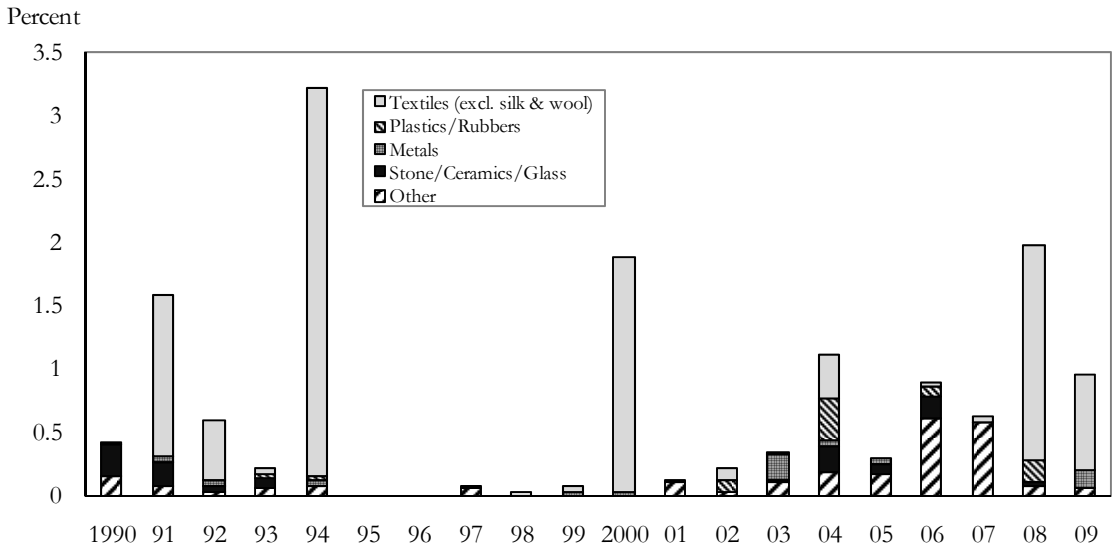
b. Share of the Value of HS-06 Imports Subject to a TTB by Industry (Stock)



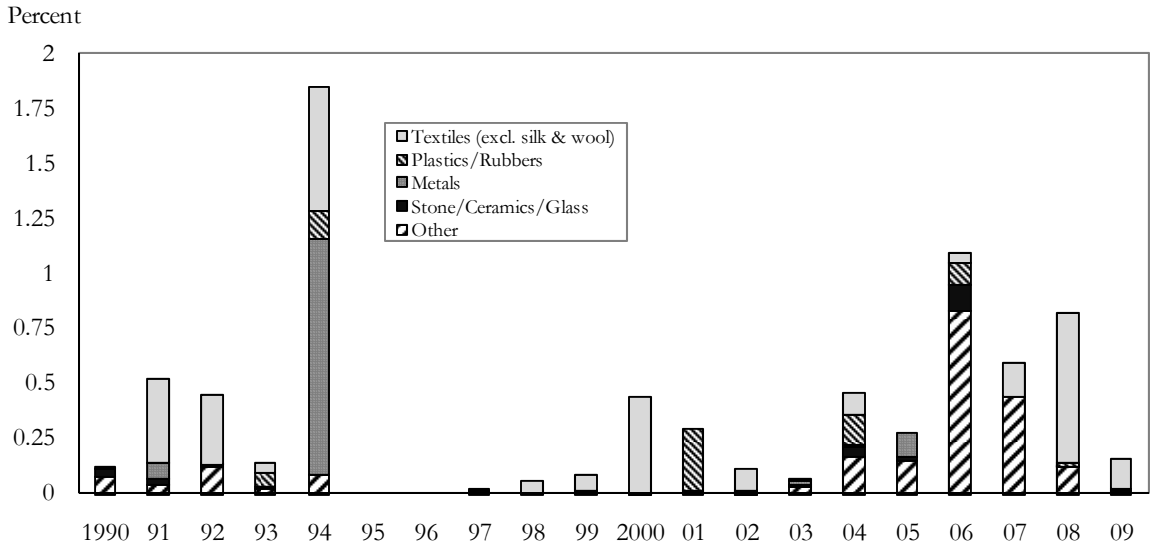
Notes: TTBs include AD, CVD, SG, and CSG.
Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Figure 4: Cross-Industry Variation in Turkey's Use of TTBs

c. Share of HS-06 Products under New TTB Investigation by Industry (Flow)

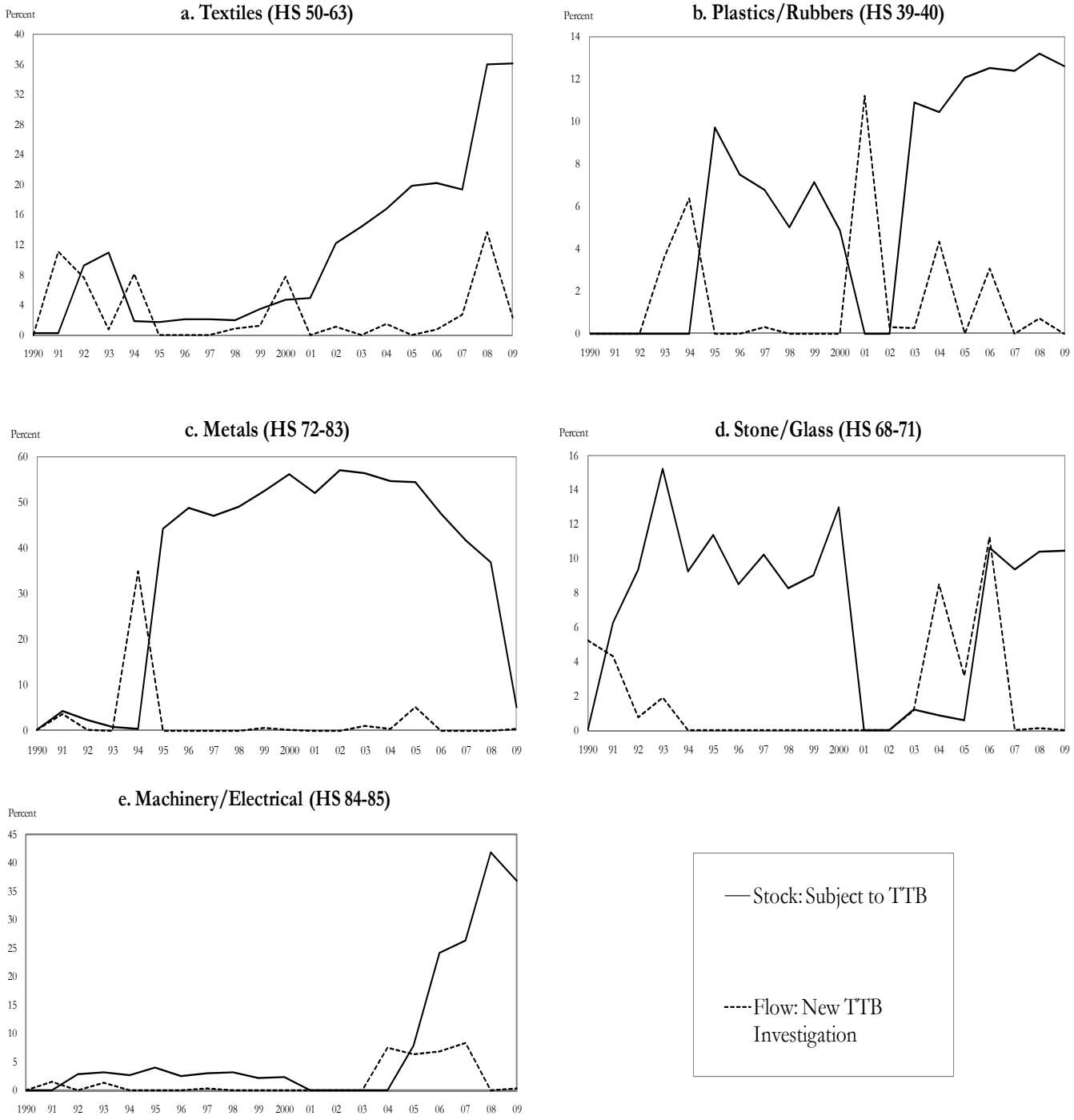


d. Share of the Value of HS-06 Imports under New TTB Investigation by Industry (Flow)



Notes: TTBs include AD, CVD, SG, and CSG.
Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

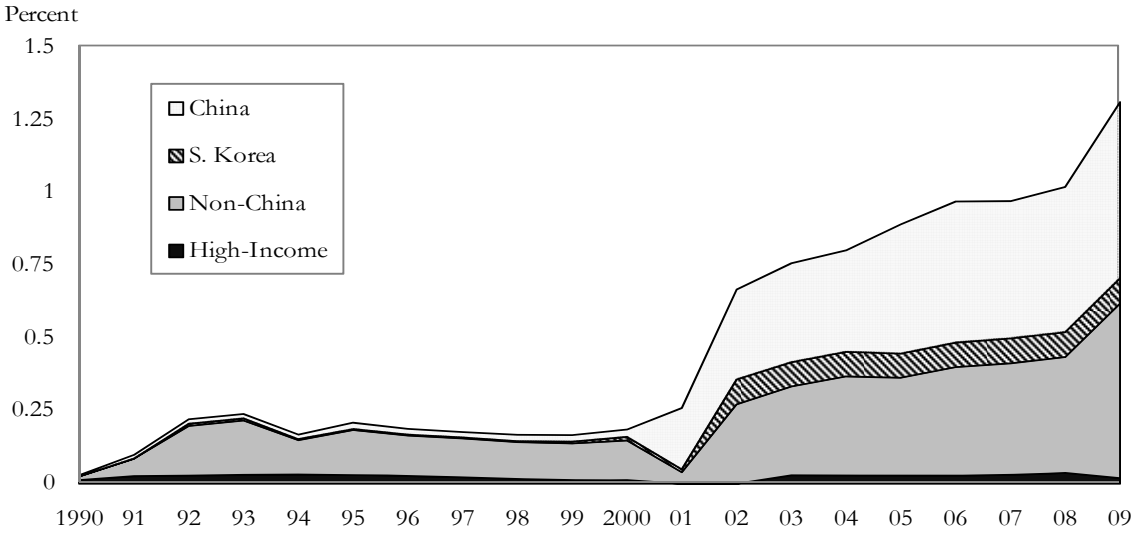
Figure 4: Cross-Industry Variation in Turkey's Use of TTBs (continued…)



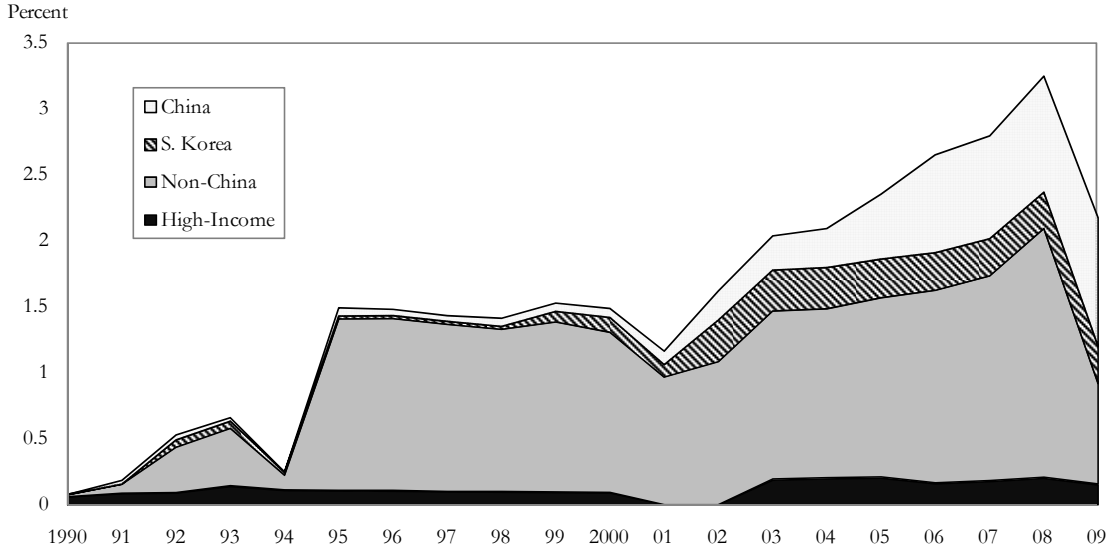
Notes: TTBs include AD, CVD, SG, and CSG.
Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Figure 5: Turkey's Use of TTBs by Share of Import Value within Industries

a. Share of HS-06 Product-Target Country Combinations Subject to a TTB by Country Group (Stock)



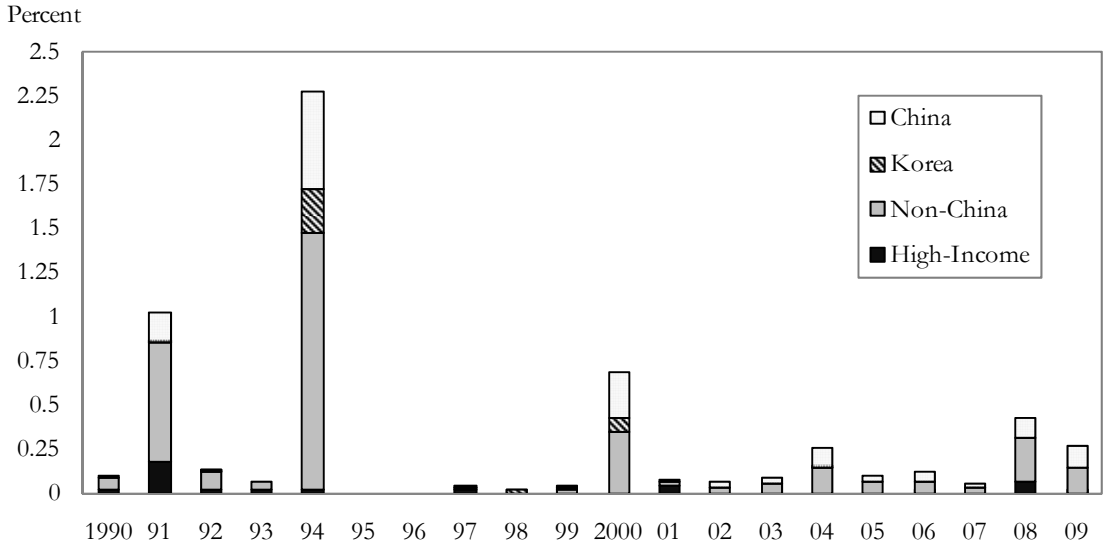
b. Share of the Import Value of HS-06 Products Subject to a TTB by Country Group (Stock)



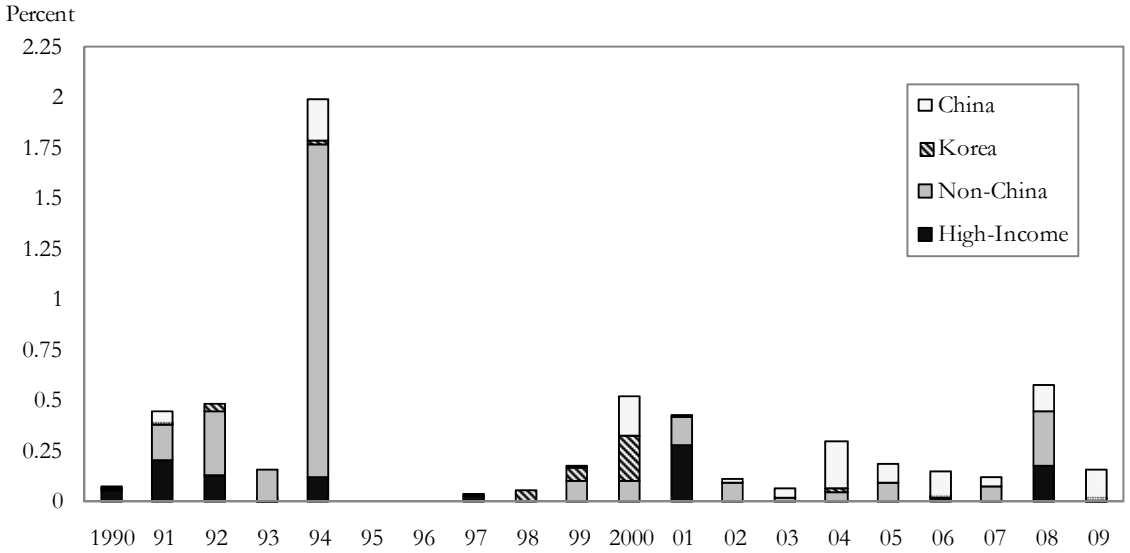
Notes: TTBs include AD, CVD, and CSG.
Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Figure 6: Cross-Country Variation in Turkey's Use of TTBs

c. Share of HS-06 Product-Target Country Combinations under New TTB Investigation by Country Group (Flow)



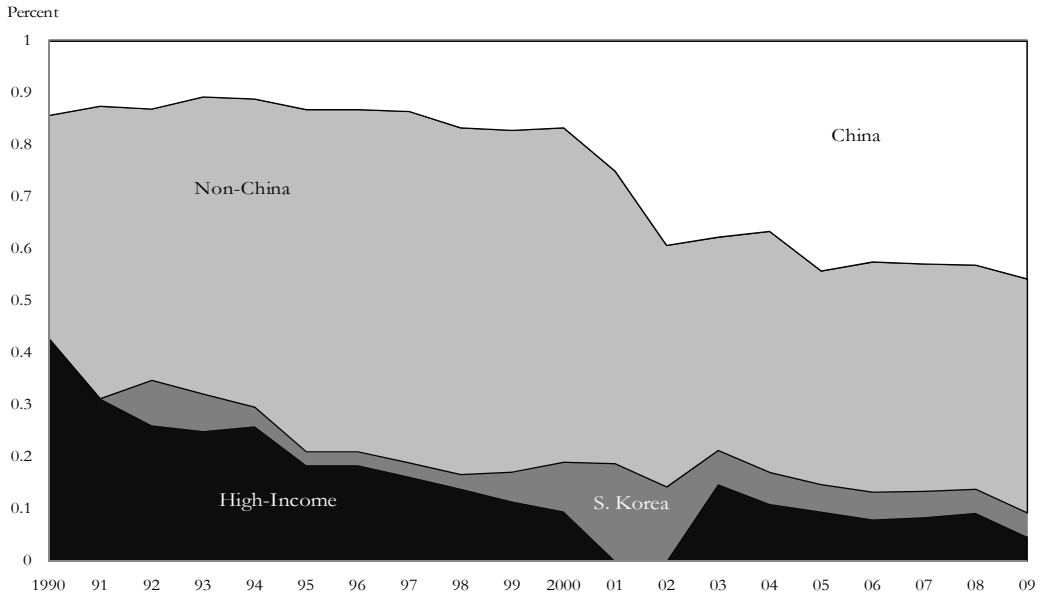
d. Share of the Import Value of HS-06 Products under New TTB Investigation by Country Group (Flow)



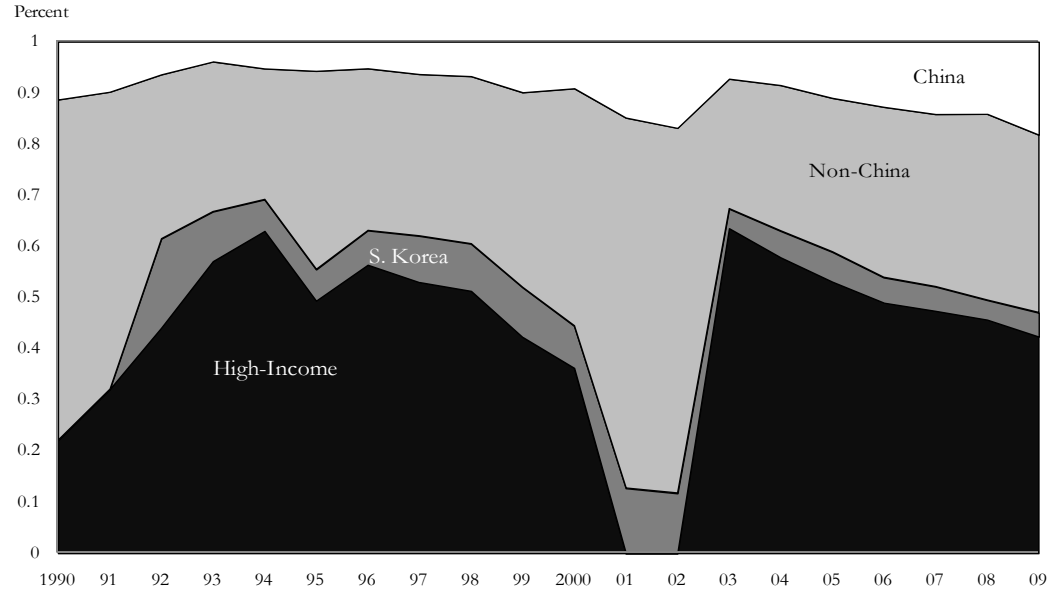
Notes: TTBs include AD, CVD, and CSG.
Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Figure 6: Cross-Country Variation in Turkey's Use of TTBs (continued…)

a. Share of Antidumping Cases among Target Country Groups (Stock)



b. Import Market Share of Target Country Groups subject to Antidumping



Sources: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Figure 7: Cross-Country Variation in Turkey's Antidumping Investigations

Table 1: Turkey's Use of Temporary Trade Barriers at the HS-06 Product Level, 1990-2009

STOCK (in force)		**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Counts of HS-06 Products	AD	29.5	28	34.0	36	69	99	114	119	152	163	155	164	192
	SG									2	23	24	84	82
	CSG										4	4	4	4
	CVD													3
Import Share (%) by Count	AD	0.657	0.649	0.739	0.784	1.534	2.216	2.544	2.630	3.339	3.581	3.569	3.769	4.428
	SG									0.044	0.505	0.553	1.931	1.891
	CSG										0.088	0.092	0.092	0.092
	CVD													0.069
Import Share (%) by Value	AD	0.368	0.253	1.476	1.494	1.170	1.627	2.043	2.100	2.362	2.638	2.779	3.234	2.155
	SG									0.026	0.571	0.822	1.630	1.640
	CSG										0.022	0.023	0.022	0.022
	CVD													0.004
FLOW (new invs.)		**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Counts of HS-06 Products	AD	30.5	144	2.3	86	5	9	15	37	9	11	6	43	40
	SG								13		24	21	40	1
	CSG									4	5			
	CVD												3	
Import Share (%) by Count	AD	0.692	3.222	0.030	1.874	0.111	0.201	0.335	0.818	0.198	0.242	0.138	0.988	0.923
	SG								0.287		0.527	0.484	0.919	0.023
	CSG									0.088	0.110			
	CVD												0.069	
Import Share (%) by Value	AD	0.306	1.847	0.033	0.439	0.291	0.108	0.062	0.291	0.248	0.142	0.164	0.451	0.157
	SG								0.164		0.811	0.434	0.369	0.002
	CSG									0.023	0.137			
	CVD												0.004	

Source: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.

Table 2: Turkey's TTB Initiations and Outcomes

	Antidumping (AD)			Global Safeguards (SG)			China Specific Safeguards (CSG)			Countervailing Duties (CVD)		
Year	Number of Initiations	Final Measure	% Resulting in Measures	Number of Initiations	Final Measure	% Resulting in Measures	Number of Initiations	Final Measure	% Resulting in Measures	Number of Initiations	Final Measure	% Resulting in Measures
1990	10	8	80.0									
1991	5	5	100.0									
1992	4	4	100.0									
1993	8	6	75.0									
1994	21	8	38.1									
1995												
1996												
1997	5	1	20.0									
1998	1	1	100.0									
1999	8	7	87.5									
2000	7	7	100.0									
2001	15	14	93.3									
2002	17	17	100.0									
2003	17	17	100.0									
2004	32	32	100.0	5	2	40.0						
2005	12	12	100.0				1	1	100.0			
2006	8	8	100.0	5	5	100.0	2	0	0.0			
2007	6	6	100.0	3	3	100.0						
2008	23	18	78.3	1	1	100.0				1	1	100.0
2009	6	5	83.3	1	1	100.0						
Total	**205**	**176**	**85.9**	**15**	**12**	**80.0**	**3**	**1**	**33.3**	**1**	**1**	**100.0**

Source: Author's calculations using TTBD (Bown, 2010a).

Table 3: Duration of Turkey's Antidumping Measures

a. Duration

Number of Years	Number of AD Cases (already revoked)	Number of AD Cases (still in force as of June 2010)
1	0	9
2	0	11
3	0	6
4	1	20
5	16	12
6	4	25
7	7	24
8	3	11
9	7	2
10	6	7
11	0	1
12	0	0
13	0	0
14	0	0
15	1	0
Total	**45**	**128**
Average Duration	**7.09 yrs**	**5.4 yrs**
Average Duration (Textiles)	**9 yrs**	**5.7 yrs**
Average Duration (China)	**7.4 yrs**	**5.4 yrs**

Table 3: Duration of Turkey's Antidumping Measures (continued...)

b. Percentage of AD Measures Imposed Five or More Years Ago but Still Not Revoked

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
%	100.0	100.0	89.5	83.3	84.6	2.9	2.9	2.9	2.9	5.7	20.9	29.2	42.4	51.1	60.9	64.6

Source: Author's calculations using TTBD (Bown, 2010a).

Table 4: Cross-Industry Distribution of Turkey's TTBs at the HS-06 Product Level

a. TTBs in Force (Stock)

Counts of Products	HS Code	90-93avg	1994	95-99avg	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Salt	25										1	1	1	1
Chemicals	29-38	0.50	1	1.80	1			1	1	2	2	2	3	3
Plastics/Rubbers	39-40			2.00	2			6	6	16	17	19	20	23
Leather Handbags, etc.	4202												12	12
Wood and Paper Prod.	44,48	1.00	1	1.00	1						7	4	9	9
Textiles (excl. silk & wool)	52-63	11.25	2	2.20	4	63	90	91	91	106	106	97	139	167
Footwear	64										18	16	15	15
Stone/Ceramics/Glass	68-70	10.00	16	16.00	16			1	1	1	7	9	9	8
Metals	72-83	3.25	4	5.20	6	4	4	8	12	16	15	15	15	14
Machinery/Electrical	84-85	1.75	3	3.00	3					3	7	7	14	13
Automotive	87	1.00	1	0.40					1	1	1	4	4	4
Miscellaneous Manu.	90,96	0.75	1	2.40	3	2	5	7	7	10	10	10	12	11
Import Share by Value	**HS Code**	**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Salt	25										0.009	0.009	0.009	0.009
Chemicals	29-38	0.001	0.003	0.013	0.012			0.001	0.001	0.010	0.010	0.010	0.021	0.015
Plastics/Rubbers	39-40			0.171	0.150			0.317	0.334	0.384	0.408	0.428	0.432	0.421
Leather Handbags, etc.	4202												0.266	0.266
Wood and Paper Prod.	44,48	0.055	0.046	0.046	0.044						0.038	0.022	0.037	0.033
Textiles (excl. silk & wool)	52-63	0.196	0.096	0.107	0.191	0.217	0.654	0.728	0.733	0.800	0.785	0.842	1.363	1.629
Footwear	64										0.413	0.399	0.397	0.431
Stone/Ceramics/Glass	68-70	0.040	0.041	0.065	0.075			0.005	0.004	0.004	0.090	0.073	0.066	0.078
Metals	72-83	0.039	0.009	1.016	0.974	0.945	0.960	0.959	0.989	1.075	1.126	1.222	1.503	0.160
Machinery/Electrical	84-85	0.018	0.034	0.041	0.032					0.141	0.379	0.382	0.513	0.433
Automotive	87	0.009	0.011	0.003					0.008	0.008	0.008	0.274	0.269	0.272
Miscellaneous Manu.	90,96	0.008	0.011	0.014	0.016	0.008	0.013	0.033	0.032	0.060	0.059	0.057	0.101	0.074

Table 4: Cross-Industry Distribution of Turkey's TTBs at the HS-06 Product Level (continued…)

b. New TTB Investigations (Flow)

Counts of Products	HS Code	90-93avg	1994	95-99avg	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Salt	25										1			
Chemicals	29-38	0.25	1					1	1	1			2	1
Plastics/Rubbers	39-40	0.25	1	0.20		1	4	1	15		4		8	
Leather Handbags, etc.	4202											12		
Wood and Paper Prod.	44,48	0.25	1							4	3	4	1	
Textiles (excl. silk & wool)	52-63	26.33	138	0.60	85		4		16		1	2	74	33
Footwear	64										18			
Stone/Ceramics/Glass	68-70	6.25						1	9	4	8		1	
Metals	72-83	1.25	2	0.20	1			9	2	2				6
Machinery/Electrical	84-85	1.25		0.20					3	2	2	7		1
Automotive	87	0.50						1			3			
Miscellaneous Manu.	90,96	0.75	1	0.20		4	1	2	4			2		
Import Share by Value	**HS Code**	**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Salt	25										0.009			
Chemicals	29-38	0.001	0.015					0.001	0.009	0.002			0.101	0.002
Plastics/Rubbers	39-40	0.016	0.124	0.002		0.281	0.009	0.007	0.141		0.102		0.023	
Leather Handbags, etc.	4202											0.264		
Wood and Paper Prod.	44,48	0.014	0.070							0.015	0.023	0.005	0.015	
Textiles (excl. silk & wool)	52-63	0.187	0.562	0.027	0.434		0.097		0.096		0.043	0.158	0.684	0.141
Footwear	64										0.413			
Stone/Ceramics/Glass	68-70	0.021						0.005	0.042	0.023	0.111		0.001	
Metals	72-83	0.019	1.075	0.002	0.005			0.019	0.008	0.104				0.011
Machinery/Electrical	84-85	0.014		0.001					0.133	0.128	0.124	0.138		0.005
Automotive	87	0.030						0.008			0.266			
Miscellaneous Manu.	90,96	0.003	0.001	0.001		0.010	0.003	0.021	0.027			0.033		

Notes: TTBs include AD, CVD, SG, and CSG. Source: Author's calculations using TTBD (Bown, 2010a).

Table 5: Cross-Country Distribution of Turkey's TTBs at the HS-06 Product Level

a. TTBs in Force (Stock)

Counts of Products	**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
China	3.00	4	6.40	8	63	93	105	110	143	159	152	161	190
S. Korea	1.00	1	1.20	4	3	26	26	27	27	28	28	28	28
Taiwan	2.50	3	3.00	5	2	26	27	32	32	32	32	32	32
Malaysia						23	24	24	24	25	25	26	30
Thailand						23	28	28	28	30	30	31	31
India				1	1	1	4	5	5	7	9	9	40
Indonesia	4.00	8	8.00	9	1	1	1	1	1	7	4	5	37
Romania	7.75	10	11.20	9			1	1	1	1	1	1	1
Vietnam								4	4	4	6	8	8
Other (High Inc)	6.00	8	6.40	4			9	9	9	9	10	12	6
Other (Non-High Inc)	13.00	9	18.80	19	8	8	9	12	13	16	16	16	9
Import Share by Value	**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
China	0.024	0.001	0.056	0.069	0.103	0.220	0.260	0.297	0.494	0.744	0.780	0.881	0.976
S. Korea	0.028	0.023	0.035	0.113	0.095	0.317	0.311	0.314	0.295	0.286	0.284	0.277	0.283
Taiwan	0.014	0.018	0.016	0.033	0.012	0.059	0.079	0.080	0.078	0.081	0.080	0.078	0.080
Malaysia						0.039	0.054	0.061	0.067	0.058	0.056	0.076	0.076
Thailand						0.014	0.040	0.013	0.015	0.016	0.019	0.034	0.045
India				0.020	0.015	0.016	0.046	0.045	0.044	0.077	0.079	0.077	0.220
Indonesia	0.014	0.026	0.024	0.036	0.012	0.012	0.012	0.012	0.012	0.037	0.035	0.059	0.134
Romania	0.017	0.008	0.034	0.012			0.106	0.107	0.104	0.102	0.102	0.100	0.101
Vietnam								0.005	0.005	0.005	0.002	0.007	0.001
Other (High Inc)	0.096	0.113	0.103	0.093			0.195	0.205	0.211	0.166	0.183	0.209	0.157
Other (Non-High Inc)	0.175	0.064	1.208	1.117	0.933	0.949	0.941	0.961	1.038	1.089	1.181	1.459	0.109

Table 5: Cross-Country Distribution of Turkey's TTBs at the HS-06 Product Level (continued…)

b. New TTB Investigations (Flow)

Counts of Products	**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
China	10.25	140	0.60	85	4	8	13	33	11	16	6	36	40
S. Korea	0.50	64	0.60	23				2					
Taiwan	10.25		0.20	24		2		6					
Malaysia				23			1	1			1	4	
Thailand			0.20	23		5		1	1		1		
India	13.75	74	0.20			3		2	1	3		31	
Indonesia	2.00	138	0.20					1	5		1	33	
Romania	3.50	1			1								
Vietnam								4		3		2	
Other (High Inc)	12.00	4	0.60		9					1		20	1
Other (Non-High Inc)	22.75	157	0.20		1		1	3	4			6	
Import Share by Value	**90-93avg**	**1994**	**95-99avg**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
China	0.016	0.204	0.002	0.195	0.009	0.015	0.047	0.238	0.099	0.129	0.046	0.130	0.152
S. Korea	0.010	0.024	0.024	0.226				0.013					
Taiwan	0.007		0.005	0.038		0.017		0.015					
Malaysia				0.035			0.007	0.004			0.032	0.001	
Thailand				0.022		0.035		0.001	0.002		0.015		
India	0.007	0.017	0.007			0.036		0.007	0.000	0.002		0.150	
Indonesia	0.001	0.035	0.004					0.009	0.009		0.019	0.089	
Romania	0.010	0.013			0.066								
Vietnam								0.005		0.001		0.005	
Other (High Inc)	0.095	0.110	0.004		0.276					0.012		0.169	0.000
Other (Non-High Inc)	0.139	1.589	0.001		0.070		0.001	0.002	0.070			0.024	

Notes: TTBs include AD, CVD, and CSG. Source: Author's calculations using TTBD (Bown, 2010a).

Table 6: Cross-Country Distribution of Turkey's Antidumping Investigations

Year	Exporting Country Target	Total Number of Target Country Cases of AD Investigations (Share of Total Number of Cases)		Share of Involvement in Distinct Number of Investigations	Import Market Share of Target Country (Rank)		Only Country Named in Investigation (Share of Target Country's Cases)		Cases Resulting in Measures (Share of Target Country's Investigations)		Avg. AD Margin
1990-1999	China	12	(0.14)	0.27	0.021	(10)	4	(0.33)	6	(0.50)	278
	Romania	8	(0.09)	0.18	0.013	(12)	1	(0.13)	7	(0.88)	39
	Russia	7	(0.08)	0.16	0.042	(7)	0	(0.00)	5	(0.71)	77
	S. Korea	6	(0.07)	0.13	0.029	(8)	2	(0.33)	5	(0.83)	21
	Taiwan	6	(0.07)	0.13	0.015	(11)	4	(0.67)	3	(0.50)	19
	India	4	(0.05)	0.09	0.008	(18)	0	(0.00)	1	(0.25)	14
	Indonesia	4	(0.05)	0.09	0.005	(24)	1	(0.25)	2	(0.50)	22
	Bulgaria	4	(0.05)	0.09	0.010	(15)	2	(0.50)	3	(0.75)	111
	Hungary (High Inc)	3	(0.04)	0.07	0.005	(25)	1	(0.33)	2	(0.67)	n/a
	Other (High Inc)	15	(0.18)	0.33	0.782		3	(0.20)	5	(0.33)	n/a
	Other (Non-High Inc)	15	(0.18)	0.33	0.070		3	(0.20)	6	(0.40)	38
	Total	84	(1.00)		1.000		21	(0.25)	45	(0.54)	
2000-2009	China	62	(0.43)	0.82	0.098	(3)	40	(0.65)	60	(0.97)	91
	Taiwan	10	(0.07)	0.13	0.017	(14)	1	(0.10)	10	(1.00)	35
	Thailand	9	(0.06)	0.12	0.010	(23)	0	(0.00)	9	(1.00)	59
	India	8	(0.06)	0.11	0.018	(13)	0	(0.00)	8	(1.00)	28
	Indonesia	8	(0.06)	0.11	0.011	(20)	0	(0.00)	8	(1.00)	18
	Malaysia	6	(0.04)	0.08	0.010	(21)	1	(0.17)	6	(1.00)	17
	Vietnam	6	(0.04)	0.08	0.002	(31)	0	(0.00)	6	(1.00)	38
	S. Korea	3	(0.02)	0.04	0.037	(7)	0	(0.00)	3	(1.00)	14
	Russia	3	(0.02)	0.04	0.112	(2)	1	(0.33)	2	(0.67)	3
	Other (High Inc)	19	(0.13)	0.25	0.576		0	(0.00)	15	(0.79)	22
	Other (Non-High Inc)	9	(0.06)	0.12	0.110		2	(0.22)	8	(0.89)	30
	Total	143	(1.00)		1.000		45	(0.31)	135	(0.94)	

Source: Author's calculations using TTBD (Bown, 2010a) and COMTRADE.